

DEFENSE LOGISTICS AGENCY
INFORMATION SERVICES MARKET

INPUT

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**Federal Information Systems and Services
Program (FISSP)**

***Defense Logistics Agency Information
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Abstract

Information systems spending at the Defense Logistics Agency will grow sharply from FY 1991 to FY 1992, as a result of heavy equipment purchases. It will then drop sharply in FY 1993 and beyond. Thus, INPUT expects the overall market for contracted information systems and services to grow from \$196 million in FY 1991 to \$221 million in FY 1996, at a low CAGR of 2%. The delivery modes for telecommunications and EDI services will sustain the highest growth rates over the next five years. The agency however estimates more emphasis on hardware expenditures. The body of the report discusses DLA's expectations through FY 1993.

This report focuses on the changes in DLA information systems in response to enhanced mission responsibilities, and changing DoD business practices.

The *Defense Logistics Agency Information Services Market* report offers insight to vendors to assist them in establishing or revising marketing strategies and selecting addressable opportunities.

This report contains 176 pages, including 83 exhibits.

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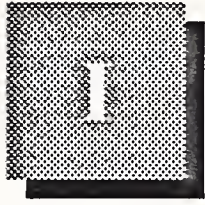
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Introduction

The Defense Logistics Agency Information Services Market is part of INPUT's continuing series on key federal agencies that are expected to play a major role in the federal information systems market. Insight into agency requirements and perceptions, and contractor guidance are offered to assist vendors in planning their marketing strategies to compete in the DLA information services market.

INPUT's study was first published in 1989 in response to the rapid changes in DLA information systems acquisition practices then under way. Continued client interest in DLA has compelled INPUT to update sections of the original report to reflect changes that have occurred in the agency's structure, IRM organization, and information systems directions.

The Defense Logistics Agency Information Services Market report is provided through INPUT's Federal Information Systems and Services Program (FISSP). Reports issued through this program are designed to assist INPUT's U.S. clients in satisfying future federal government needs for computer-based information systems and services.

The report's findings are based on research and analysis of several sources, including:

- OMB/GSA/NIST Five-Year Information Technology Plans for 1992-1997, and available agency plans
- Interviews with leading information systems and services vendors
- Interviews with DLA Headquarters Policy officials and DLA field program managers and users
- The DLA 1988 Conceptual Functional Requirements and other agency documents
- DLA Long-Range IRM Plans FY91-FY97, Volumes I-IV

A**Scope**

The period of interest for this report is GFY 1989 to GFY 1996, with the forecast ranging from 1991 to 1996. Vendor interviewees were selected because they were either identified as contractors of record for existing contracts with the agency or listed in INPUT's vendor analysis data base for 1989. Agency interviewees were identified with assistance from the DLA Office of Information Systems and Technology. In-depth interviews with agency personnel and vendors were conducted for the 1989 edition of this report. Information for the 1991 update was primarily obtained from DLA Headquarters officials and recent agency publications.

For the purposes of this study, INPUT defined information systems and services to encompass the following categories of vendor products and services (see Appendix F for detailed explanations of each category):

- Processing Services
- Network Services
- Software Products
- Professional Services
- Turnkey Systems
- Systems Integration
- Hardware

B**Methodology**

The OMB/GSA/NIST Five-Year Plan was analyzed for programs to be initiated during the period of interest of this report and for information technology obligations for the agency. INPUT also researched agency long-range plans and the DLA 1988 Conceptual Functional Requirements to identify funding changes and program initiatives. Other internal agency documents were used to provide background information on the agency.

Agency questionnaires were designed to acquire data on agency programs, organization, funding patterns, and trends affecting the acquisition of information systems and services.

The vendor questionnaire was designed to acquire information on the industry's perspectives of the market for information systems and services at DLA.

For comparison, all three questionnaires included some similar questions about contracting policy, preferences, and selection criteria.

The questionnaires developed for agency respondents and vendors are included in Appendix F.

Headquarters personnel that were selected for interview were policy officials.

DLA field respondents included Office of Telecommunications and Information Systems (OTIS) directors and program managers/users at Primary Level Field Activities (PLFAs).

Industry respondents selected for interview included marketing executives and corporate executives.

C

Report Organization

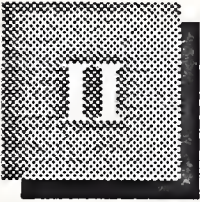
This report consists of six additional chapters:

- Chapter II is an Executive Overview describing the major points and findings of this report.
- Chapter III focuses on the mission and organization of the agency, along with trends impacting DLA specifically and the agency's preferences for contractors.
- Chapter IV provides the market forecast for each segment of the DLA information systems and services market.
- Chapter V presents the initiatives underway at the agency, and the implications of DMRDs on DLA systems.
- Chapter VI summarizes the acquisition plans and procedures used by the agency for ADP/T resources.
- Chapter VII presents the vendors' perspectives on the DLA information systems market.

Several appendixes are also provided:

- Interview Profiles
- Definitions
- Glossary of Acronyms
- Policies, Regulations, and Standards
- Related INPUT Reports
- Questionnaires

Following the appendixes is a description of INPUT and its programs and services.



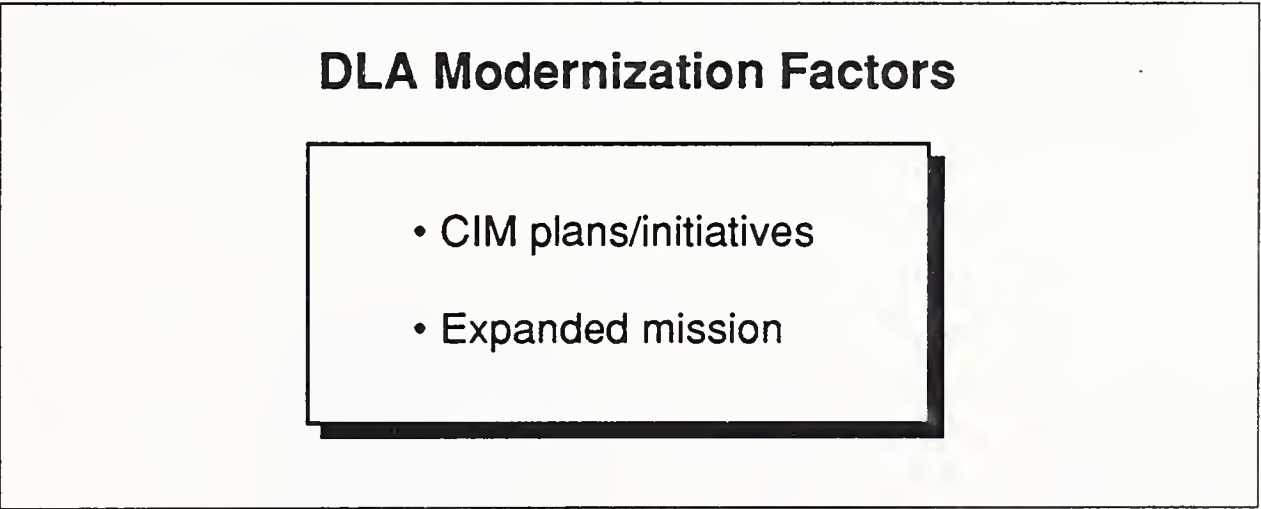
Executive Overview

A

DLA Modernization Factors

Since its founding in the 1950s, the organization now called the Defense Logistics Agency (DLA) has relied on information-intensive processes and practices to perform its mission. As might be expected, computers have played a critical role in the growth and effectiveness of DLA. Its information-intensive needs readily lent themselves to computerized automation, and still do so. DLA's dependence on advanced information systems will continue to increase throughout the 1990s. The main factors contributing to this dependence are readily apparent, as listed in Exhibit II-1.

EXHIBIT II-1



The Corporate Information Management (CIM) initiative, in combination with Defense Management Review Decisions (DMRDs) will impact the mission, IRM organization, and IRM structure of DLA and other DoD agencies. To what extent DLA AISs or their modifications will become standard DoD-wide applications remains undetermined by CIM planners. CIM directives will determine large initiatives, if any. Agency executives must have patience, and participate in political turf battles as CIM's implementation unfolds.

DLA anticipates additional mission growth in response to CIM, and expects information processing requirements to be affected. As human and financial resources continue to contract, DoD is looking more and more to DLA to increase support to the military services through consolidated logistics, contract management, and technical functions.

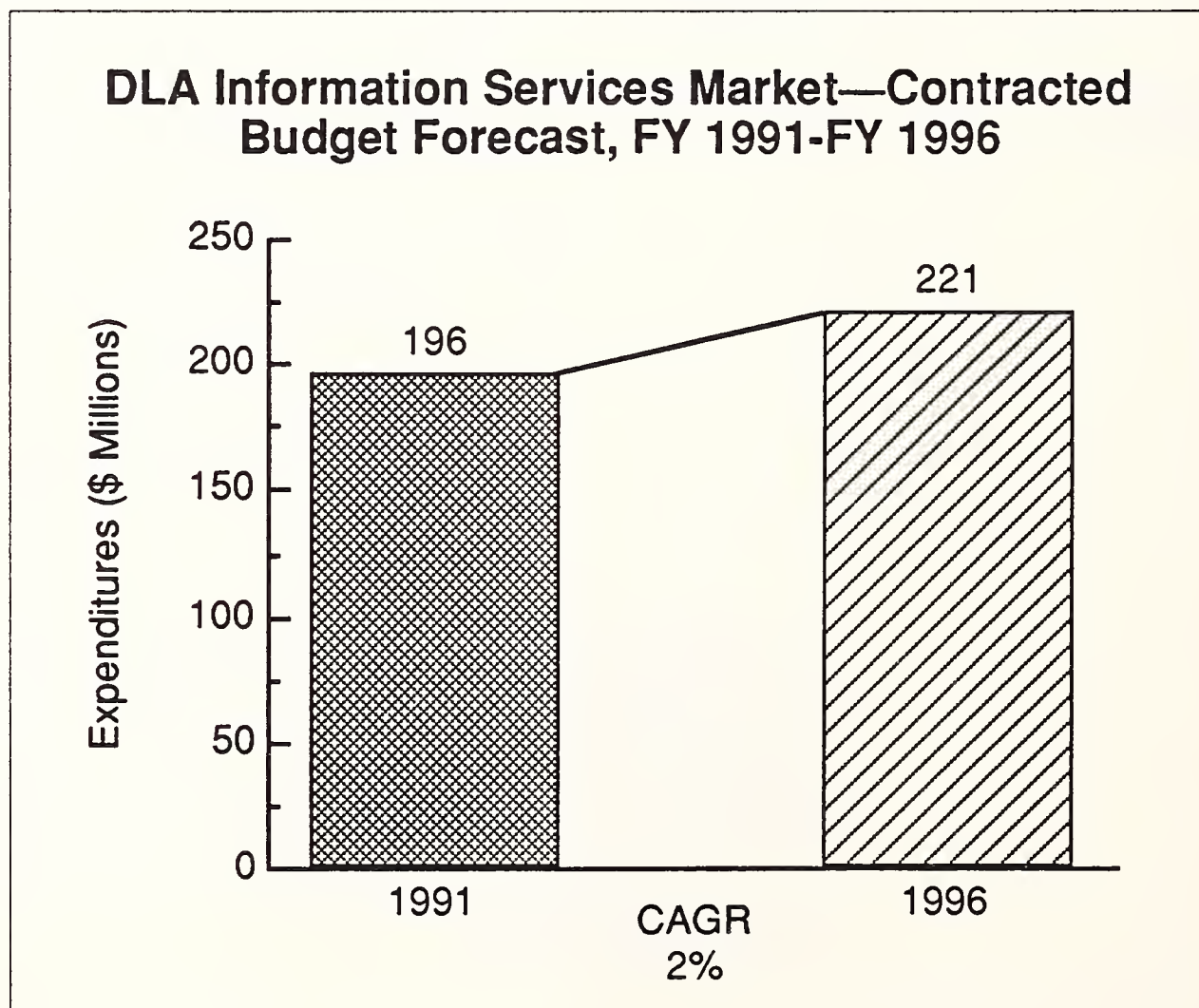
The concept of the Logistics Systems Modernization Program (LSMP) is no longer a valid perception of information systems directions at DLA. Even LSMP was envisioned as an incrementally implemented effort. Small, incremental buys will be the norm over the next few years. Acquisitions of products and services are viewed as operational upgrades rather than systems modernization efforts. The DAAS ADPE Replacement Program (DARP)/Logistic Information Processing System (LIPS) is the only large procurement planned by DLA as it enters FY 1992.

B

DLA Market Forecast, FY 1991-FY 1996

INPUT estimates that the contracted portion of DLA's information systems budget will grow from \$196 million in FY 1991 to \$221 million in FY 1996, at a CAGR of only 2%, as shown in Exhibit II-2. This relatively low growth rate results from several simultaneous factors:

EXHIBIT II-2



- Defense budget constraints, especially IT budgets, are dampening budget growth in practically all defense agencies.
- The CIM initiative, directed by DMRDs is slowing information systems planning at DLA .
- Equipment spending will rise to its highest in FY 1992, supporting several initiatives, and will nearly double the spending of the immediately preceding years .
- After FY 1992, equipment spending will drop sharply, reducing DLA's overall growth rate.

The telecommunications and EDI delivery modes will sustain the highest growth rates over the next five years.

DLA expects its IT budget to be more conservative than INPUT's forecast over the FY 1991-FY 1996 period. Expenditures are estimated to grow from \$175 million in FY 1991 to \$206 million in FY 1996. The agency is planning to spend the bulk of its IT budgets on hardware in 1991 and 1992.

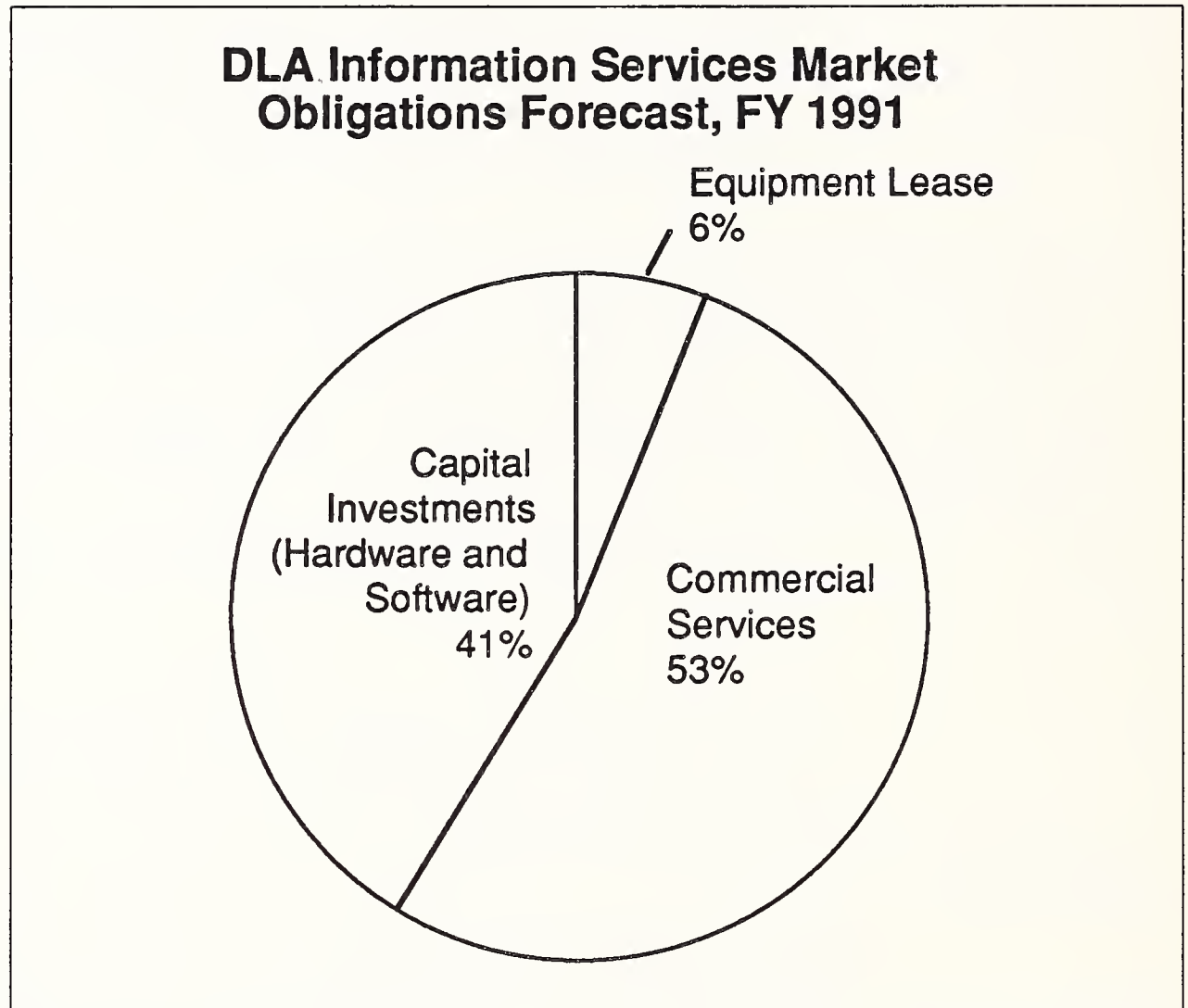
INPUT believes DLA's' budget will be higher driven by demands for telecommunications and EDI services. INPUT based its forecast on DLA's OMB A-11 budget submission, information on individual initiatives, interviews with agency executives, and various reports and articles from secondary sources. However, should overall funding or a major program be changed drastically, the forecast might require some adjustment. For example, if funding for major initiatives is stretched out, the five-year growth rate may become considerably higher.

C

Obligations Forecast

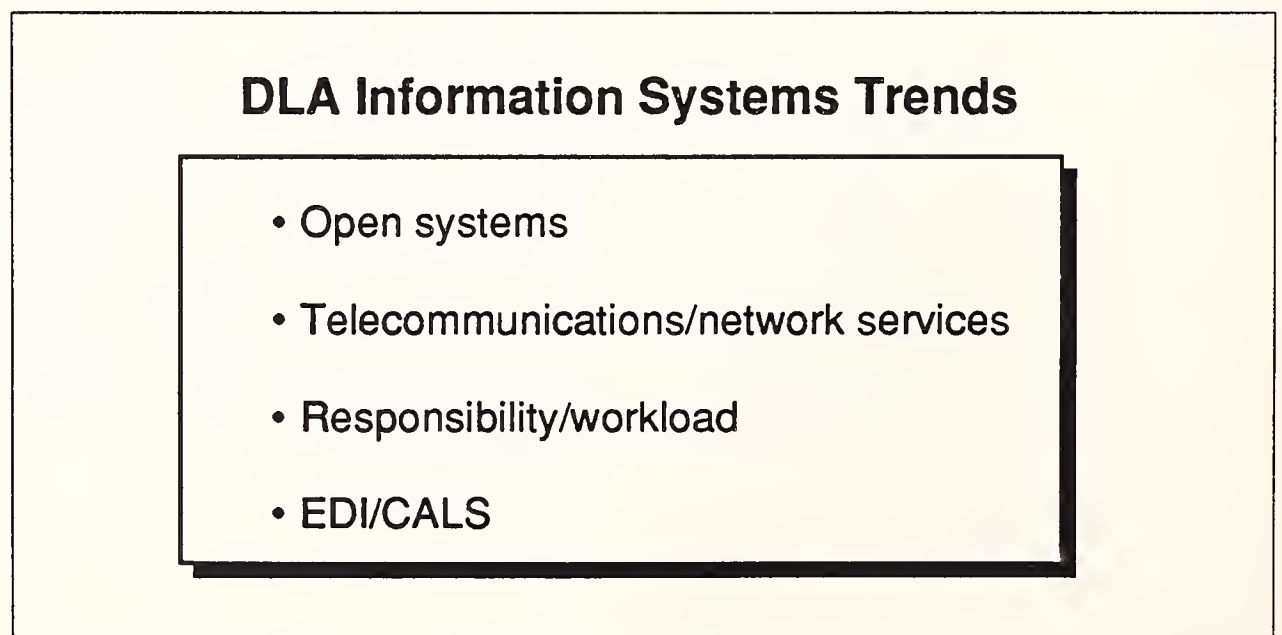
In contracting for information systems (IS) support, DLA will rely primarily on commercial services such as integration and telecommunications support from contractors over the next five years. Exhibit II-3 shows the expected relationship between commercial services, equipment lease, and capital investments. However, this relationship is not uniform over the time period. Hardware spending should begin to decline in 1992, and subsequently should account for a lower percentage of the agency's overall budget. In fact, DLA's end-user computing initiatives could account for much of the spending in the out-years.

EXHIBIT II-3

**D****Trends in Using Information Systems**

The trends driving DLA's plans for information systems and services are listed in Exhibit II-4.

EXHIBIT II-4



The need for truly “open systems” or “plug-in and play” technology will be the principal driver behind DLA’s use of contractor products and services. Vendors with the ability to expeditiously interconnect existing systems will find DLA an eager customer. DLA, not unlike other agencies, must augment and extend systems access quickly. Operating environments no longer will have the luxury of leisurely deployment. Solutions must quickly become operational to achieve targeted resource savings.

As DLA extends systems access to users in other services, additional telecommunications products and integration services will be required from contractors on a worldwide basis.

Additional processing requirements must be met as more personnel are absorbed into DLA’s organization from the other services. DLA must also accommodate greater customer demands in response to CIM efforts in the areas of contract management and depot consolidation.

DLA’s dependence on electronic data interchange (EDI) technology will continue. EDI promotes efficiency in fulfilling customer requirements and expediting its contractor transactions. Historically, DLA has been one of the leading agencies in trying out EDI techniques. It is also active in a related program, the Computer-aided Acquisition and Logistics System (CALS), which will further reduce paperwork at DLA.

E

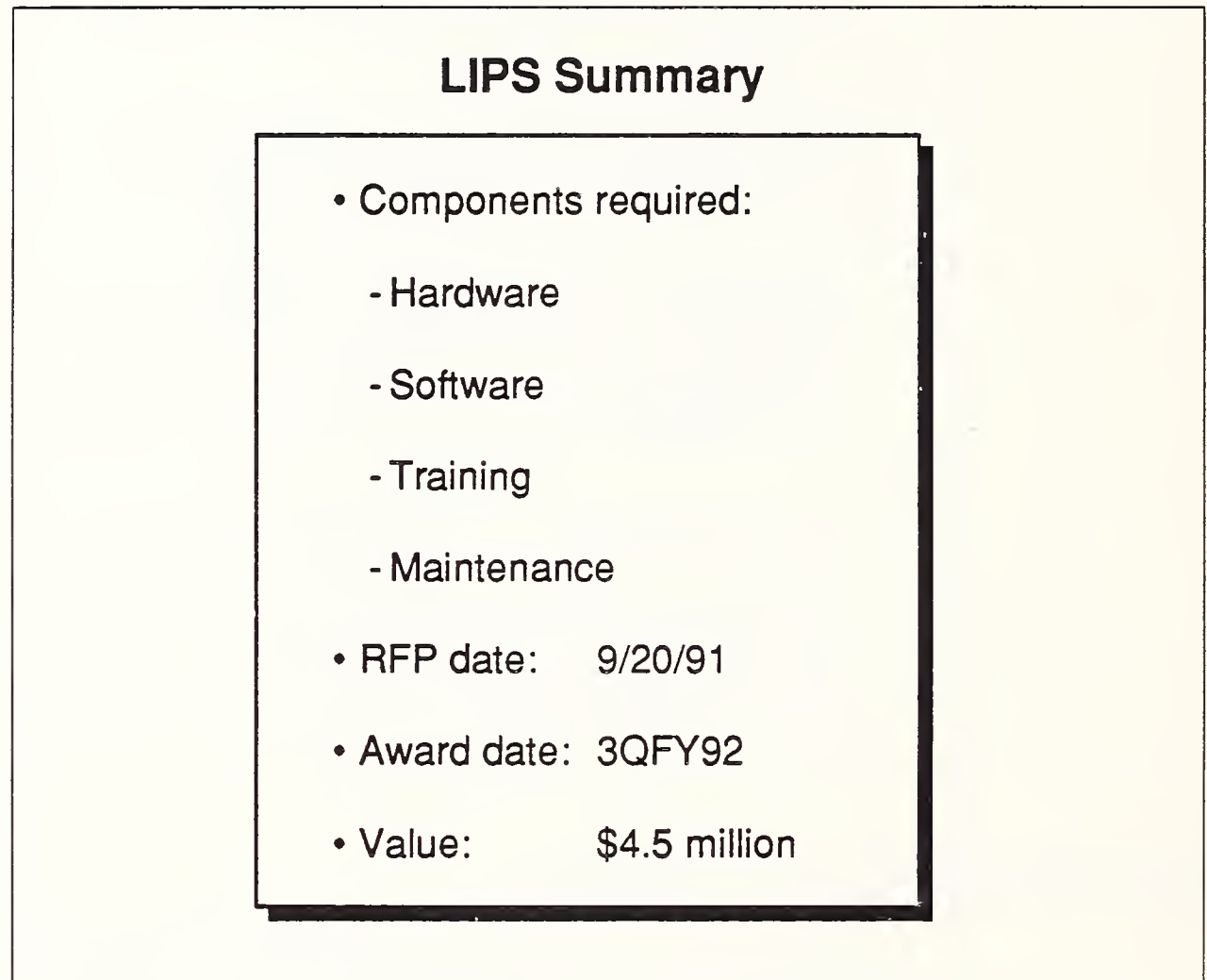
Major Information Systems Initiatives

DLA’s IS plans for the coming years focus on upgrading and replacing existing systems, and improving network capabilities. In most cases equipment needs and other contractor services will be acquired on an incremental basis, some through existing contracts. During FY 1992, DLA intends to conduct forty or more competitive procurements. At this writing, only one major initiative is scheduled by the agency, the DAAS/DARP Logistics Information Processing System (LIPS). DLA had previously intended to release one to two major procurements per year. However, the CIM initiative and DoD consolidation efforts have restrained the agency from progressing as planned.

The Logistics Information Processing System (LIPS) is the final stage of the DAAS modernization effort. A contract for the DAAS/DARP Network Control System (DNCS) component was awarded to DEC early in 1991.

The LIPS contractor will provide, install, and maintain a data management system based on derived data base information at the DAASO Dayton location. DAAS performs logistics transaction routing and processing services for all DoD agencies, DoD contractors, NATO members, and Foreign Military Sales (FMS).

As presented in Exhibit II-5, LIPS will require the contractor to furnish hardware, software, training and maintenance services. The RFP was just recently released and the agency hopes to award the contract no later than 3QFY 1992. Although the estimated value of this contract is considerably less than for DNCS, LIPS is currently valued at not less than \$4.5 million.

EXHIBIT II-5

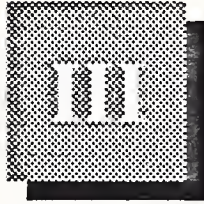
F**Leading Vendors**

Exhibit II-6 lists the leading ADP equipment suppliers to DLA, based on FY 1990 contract obligations. Grumman Data Systems (GDS) was the lead vendor in 1990 because of the DLSC/DIDS award made in December 1989. GDS will modernize all hardware and software at the Defense Logistics Services Center (DLSC). Oracle's position reflects its success in winning the Cataloging Tools On-Line (CTOL) contract for \$13 million. Oracle is supplying mid-sized systems and optical storage devices to DLA supply centers, DLSC, and DIPEC.

EXHIBIT II-6

DLA Leading ADP Equipment Suppliers, FY 1990

Vendor	Obligations (\$000s)
Grumman	60,260
Oracle	12,800
Unisys	3,900
NCR	3,400
Computer Dynamics	3,400
AT&T	2,500



Agency Overview

This chapter presents a short historical perspective on DLA and discusses the agency's worldwide mission and functional organization. The ADP/T oversight role of the Office of Information Systems and Technology (DLA-Z) is discussed in more detail. DLA's current hardware environment and the trends INPUT believes are affecting ADP/T modernization and acquisition are also examined.

A

Mission and Organization

1. Background

The evolution of the Defense Logistics Agency began with a presidential commission's recommendations to establish centralized management of common military logistics support and uniform financial management practices shortly after World War II. In response, the DoD developed organizations during the 1950s to manage supplies and some support services. The joint Army-Navy-Air Force Support Center, established in 1952, controlled identification of supply items that were consumable goods by using a common nomenclature.

During the mid-1950s each military agency managed specific commodity items, but did not utilize uniform procedures of purchasing, warehousing, distribution, and forecasting of requirements. In 1961 a single agency, the Defense Supply Agency (DSA), was created to consolidate logistics functions and services into one agency. Its mission included management of the Federal Supply Catalog, the DoD Surplus Disposal Program (now the Defense Reutilization and Marketing Service), and the DoD Industrial Plant Equipment Reserve (now the Defense Industrial Plant Equipment Center). DSA became operational in 1962.

Contract administration functions for the military services were added to DSA's mission in 1965. By 1973, DSA's operations were expanded to include overseas responsibility for wholesale food and bulk fuel stocks. During 1976, the agency received its current name, the Defense Logistics Agency. By the end of the 1970s, DLA's responsibilities had been broadened again to include overseas disposal of surplus material.

2. Current Mission

The Defense Logistics Agency's current mission entails provision of worldwide logistics and technical services, supply support functions, and contract administration services to the U.S. military forces, as shown in Exhibit III-1. It is one of 12 DoD agencies charged with providing support to all of the U.S. Armed Forces.

EXHIBIT III-1



More than 60,000 DLA personnel are currently employed throughout the U.S. and in 22 foreign countries supplying 58% of the commodities (spare parts, clothing, fuel, food, and medical, industrial, electronic and construction supplies) consumed by the Armed Forces. DLA's purchases exceed \$12 billion annually. DLA is the link mechanism between the requirements of its customers and the suppliers of common goods. In order to ensure that materials will flow from industry to DLA's customers on an efficient and timely basis, the agency's logistics information systems must quickly and accurately match customer needs with suppliers.

DLA's Defense Contract Administration Services are administered by five regions (DCMDs) covering multistate areas within the U.S. that report to the Defense Contract Management Command (DCMC). DCMC personnel negotiate contract costs and claims; conduct on-site preaward surveys; review contractors' business systems; monitor contractors' performance; and perform engineering evaluations of contractors' proposals.

Within the DCMDs are 47 management areas, servicing many contractors, and 86 plant representative offices in individual contractor plants. DCMDs administer commodities contracts for the military services, DLA, other defense agencies, some civil agencies, NASA, and certain foreign governments.

DCMDs are handling far more contracts than the 400,000 processed in 1988. Accurate figures are not available at this time because of recently added contract administration duties for other DoD agencies. Commodities are now purchased in smaller amounts, and hence more frequently. Incremental buying is viewed as a cost control measure to reduce warehousing costs. This practice reflects the DoD's new approach to purchases of commodities and information systems and services, to "do things on a smaller scale." Projects are simpler to control, and funding is easier to obtain.

DLA's supply support functions are managed by a network of six supply centers and a distribution system handling daily operations. Each supply center is in charge of one or more major commodities in terms of forecasting demands, requisition processing, inventory control, and production scheduling. The distribution system receives, warehouses, and distributes supplies. DLA and the military services are currently consolidating distribution functions into a new system that will be managed solely by DLA. A prototype operation is under way at the Western Region. Five centers in the San Francisco Bay Area are consolidating operations in the Depot Distribution System (DDS), a CIM/DMRD-directed effort. The Defense Distribution Region East is also operational. The Central Region was scheduled to be established by November 1991.

Technical and logistics services to the DoD are provided by the four service centers in the U.S. whose functions include:

- Preparation of item descriptions
- Parts control
- Value engineering
- Stockpile management
- Contractor payments

The Defense Logistics Services Center (DLSC), located in Battle Creek, MI, maintains the Federal Supply Catalog System and the Defense Logistics Information System (previously known as the Defense Integrated Data System (DIDS)). Another center, the Defense Reutilization and Marketing Service (DRMS), handles surplus items by redistribution through the federal government, donation to state and local governments, and resale to the public. Management and inventory functions for the DoD's reserve of

machine tools and plant equipment are handled by the Defense Industrial Plant Equipment Center. The Defense Stockpile Center manages the national stockpile of strategic materials intended for war or other national emergencies.

Two other DLA centers provide services solely for DLA operations. DLA's information systems are developed and maintained by staff personnel at the DLA Systems Automation Center (DSAC). Administrative services required agencywide are provided by the DLA Administrative Support Center (DASC).

The Defense Technical Information Center (DTIC) is no longer part of DLA, although it remains located at DLA's Headquarters at Cameron Station, Virginia.

DLA is the DoD's prime purchasing and contract administration agent. As might be expected, it is a large organization, only briefly depicted in the functional organization chart shown in Exhibit III-2. The exhibit summarizes both Headquarters offices and directorates located at Cameron Station in Alexandria, VA, and Primary Level Field Activities. The director and deputy director posts of the agency are held by military officers and are rotated among the military services. Lt. General C. McCausland, USAF, is the current director of the agency.

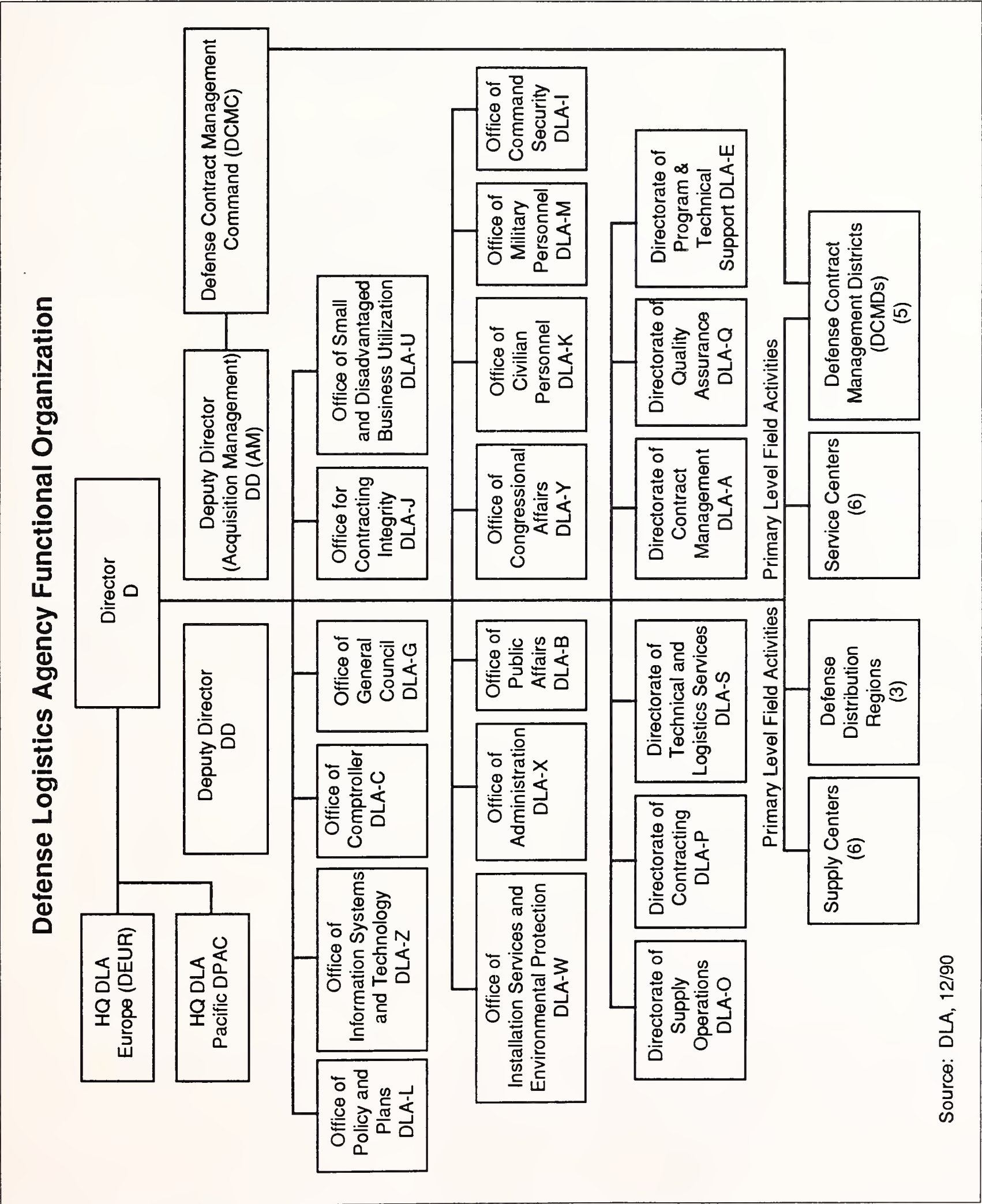
DLA's office of Policy and Plans (DLA-L) functions as the prime staff advisor for development, integration, coordination and monitoring of all DLA policy, plans, programs and projects.

DLA-Z, the oversight organization for all agency ADP/T resources, will be discussed in detail later in this chapter. Other offices and directorates that interface with DLA-Z and impact ADP/T acquisitions' policy, planning, and management are DLA-P, DLA-C, DLA-G, and the Primary Level Field Activities (PLFAs).

The Directorate of Contracting (DLA-P) functions as a staff advisor for all aspects of DLA's contracting, including the acquisition of ADP/T resources. It provides policy guidance when required. The manpower and funding assessments associated with ADP/T proposed and approved acquisitions are reviewed by the Comptrollers Office (DLA-C). The Office of General Council (DLA-G) provides all required legal functions and assistance during the procurement process of ADP/T resources.

OTIS (Office of Telecommunications and Information Systems) organizations reside within the PLFAs. These organizations directly report to their respective field commanders, but are responsible for executing the management, installation, conversion, training, and operation of their functional ADP organizations. Their staff members often serve in the capacities of a Contracting Officer's Representative (COR), or Contracting Officer's Technical Representative (COTR) for ADP/T acquisitions.

EXHIBIT III-2



Source: DLA, 12/90

The agency has long recognized the need to establish Automated Information Systems (AISs) that are based on the functional requirements of the services and agencies that utilize DLA logistics services. The Logistics Systems Modernization Program (LSMP) initiative began in the mid-1980s to effect automated logistics support systems. The LSMP concept is no longer used by the agency. New or additional systems are merely viewed as operational augmentations.

DLA approaches systems enhancements and modernization incrementally, targeting phased improvements of hardware and software systems. The Air Force's Logistics Modernization program has been instrumental in providing a role model for DLA on how to accomplish agencywide ADP/T modernization. Modular projects stressing the functionality of systems reduced the risks encountered by larger integration projects for the Air Force Logistics Command (AFLC).

B

Information Systems Structure and Organization

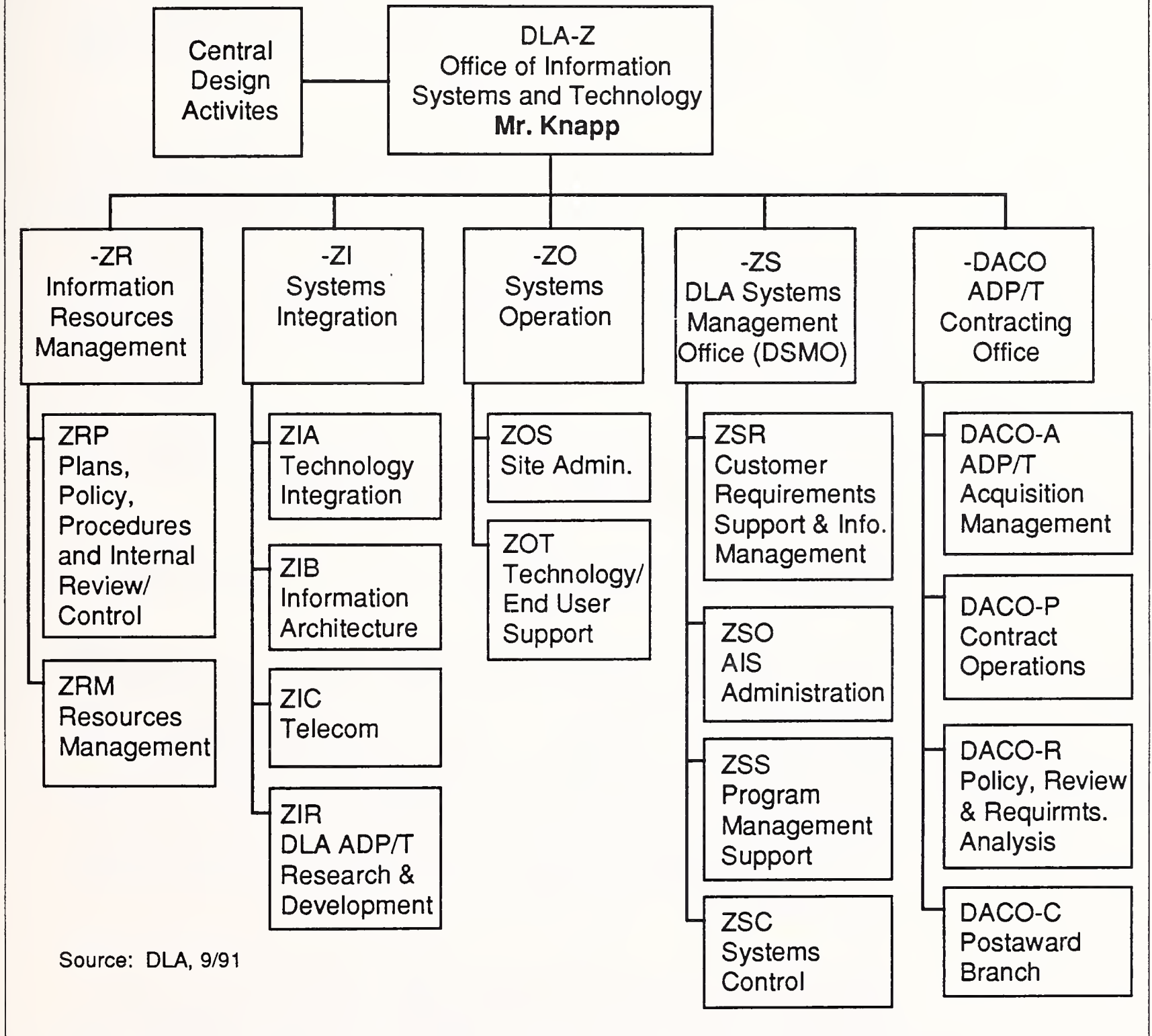
The Office of Information Systems and Technology, DLA-Z, is responsible for all ADP/T resources developed internally by agency personnel and acquired from outside the agency. DLA-Z's organization has continued to evolve since the 1989 reorganization to strengthen accountability within one organization. Its present structure is outlined in Exhibit III-3.

Tom Knapp, in his capacity as Director of Z and Assistant Director of DLA, is the current Senior IRM Official within DLA. DLA-Z's responsibilities governing the procurement and management of ADP/T resources are:

- Provide IRM policy and guidance agencywide
- Provide contracting services
- Establish information management policies and internal procedures for ADP/T acquisitions
- Design, implement and maintain operational use of DLA ADP/T, and assign DoD-wide standard information systems
- Assess ADP/T technology, research and development, and technical evaluations
- Supervise designated Central Design Activities (DSAC, DFSC, DLSC, DASC, DAASO) for all approved AISs

EXHIBIT III-3

Office of Information Systems and Technology Organization



- Develop, implement, and administer the DLA IRM Program
- Provide centralized equipment management for ADP, Telecommunications, Office Automation, Office Printing, and Reproduction Equipment
- Program/project management for all AIS initiatives

- Develop and staff ADP/T programs
- Serve as the Program/Acquisition Manager for each procurement

Through the DLA-Z organization, the agency is seeking to improve information resources accountability and management at the Headquarters level and at the centers. An overview of DLA-Z's oversight role for AIS development is presented in Exhibit III-4.

Internal control procedures have been initiated within the agency, resulting in the establishment of the DLA Automated Information System Review Council (DAISRC). All major AISs proposed for the agency pass through both the DAISRC and MAISRC approval processes. DAISRC ensures that major AISs are in compliance with DLA's strategic and IRM plans, and are prioritized for resourcing purposes. Currently, the MAISRC process is mandatory for all DoD information systems estimated to cost at least \$25 million in any given year, or \$100 million over the life cycle of the system.

DLA's DAISRC process mirrors the MAISRC process and is required for all AISs prior to submission to MAISRC. A multipage flow chart illustrating the DAISRC process is included in Appendix G.

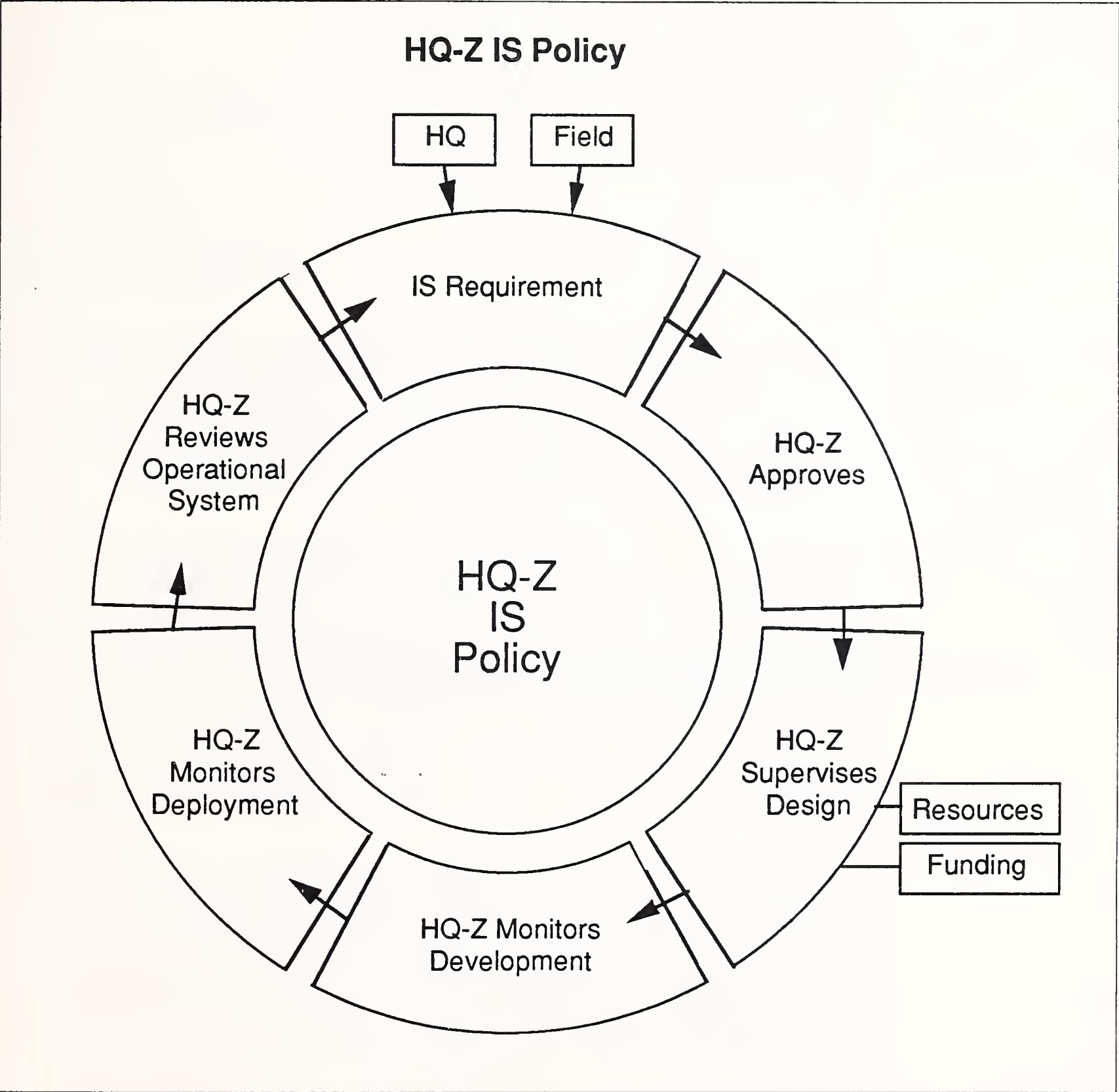
Prior to FY 1990, a stringent, formal, DLA internal AIS approval and management process did not exist.

The DLA Systems Automation Center (DSAC), a PLFA, is considered the largest central design activity (CDA). DSAC is responsible for all DLA internal systems development and enhancements to existing AISs. Other CDAs are located at the Ogden, UT depot, the Defense Logistics Service Center (DLSC), Battle Creek, MI, and the Defense Automated Addressing System Office (DAASO). DAASO's primary responsibility is to provide for automated routing of item requisitions to appropriate item managers. At this time, it is unclear whether DLA's CDAs will become Information Processing Centers (IPCs).

DLA's IRM program is developed and administered by the Information Resources Management Division (DLA-ZR). Responsibilities include developing the DLA IRM Strategic Plan, other business system planning efforts, and administration of the ADP/T Security Program. IRM budget planning efforts to support the agency's budget submissions are performed by ZRM.

The Systems Integration Division (DLA-ZI) is the systems architecture planning arm of Z, and is responsible for technical systems integration, data base administration, and systems engineering across DLA. ZI develops policy standards for AISs, and is responsible for implementation. The Technology Integration Branch (ZIA) of ZI develops all policies, proce-

EXHIBIT III-4



dures, and plans for hardware and software development, deployment, and implementation. ZIA also functions as the Contracting Officers Representative on Contracts awarded by DLA's ADP/T Contracting Office (DACO) for the joint services. The Telecommunications Branch (ZIC) develops and administers all DLA telecommunications policy, procedures, and plans. The Information Architecture Branch (ZIB) is responsible for the development and implementation of DLA's Data Administration

Program. ZI's ADP/T Research and Development Office (ZID) develops ADP technical standards, and develops all DLA research, development, and strategic planning.

The Systems Operations Division (DLA-ZO) at Headquarters is responsible for ADP/T operations, including the Information Centers (IC) and the Information Processing Centers (IPC). Field OTIS directors report to this division of Z in addition to their commanding officers in the field. Providing end users' computer resources falls in the domain of the Technology/End-User Support Branch (ZOT). The ZOS Branch performs all site administration functions such as operational reviews, and oversees ADP/T performance and installation procedures.

The Systems Management Division (ZS or DSMO) performs all program/project management functions for new and existing information systems. It serves as the interface point for HQ DLA PSEs, field activities, and external agencies (including DoD, GSA, and OMB) on AISs and program management. This office drives all modernization and operational enhancement efforts.

Within ZS, the Program Management Support Branch (ZSS) appoints program managers for each AIS program. Functional requirements support is provided through the Customer Requirements Support and Information Branch (ZSR). The AIS Administration Office manages development, implementation, operations and maintenance of assigned DLA or DoD AISs. Oversight and management functions associated with planning, scheduling, or costing of information resources are performed by the Systems Control Branch (ZSC). DAISRC and MAISRC assistance and regulations enforcement is also performed by DSMO, by the Program Management Support Branch (ZSS).

DLA's ADP/T Contracting Office, DACO, functions as the acquisition management, contracting, and contract management group for the Z organization. DACO assigns contracting officers for DLA ADP/T acquisitions. Within DACO, the Contract Operations Branch (P) provides contract planning and purchasing services for new systems (PA), current systems (PC) and telecommunications services (PI).

DACO-R performs policy, review, and requirements analysis for ADP/T systems in support of DLA's mission. Contracting policy and procedures for all ADP/T are developed by the Policy, Review and Requirements Analysis Branch.

The ADP/T Acquisition Management (DACO-A) Branch provides various support services during the acquisition process: it oversees performance tests for ADP/T prior to delivery; implements procurement plans; evaluates vendors' proposals; provides technical assistance in contract negotiations; and becomes the Contracting Office Representative on awarded DACO contracts.

DACO-C conducts all post-award administration functions for DLA and DoD ADP/T contracts.

C

Current Environment

As a result of the agency's widespread use of Z-248 microcomputers, the manufacturer that currently dominates DLA's computer hardware environment is Zenith Data Systems. Exhibits III-5 through III-9 depict the current hardware usage within the agency by manufacturer, hardware class, and class by manufacturer. Although Zenith has experienced a 27% decrease from the data reported in INPUT's earlier study, the actual number of installed Zenith systems has increased by at least 8,000 units. Zenith's market share is lower as a result of the agency's recent purchases of other PC clones.

EXHIBIT III-5

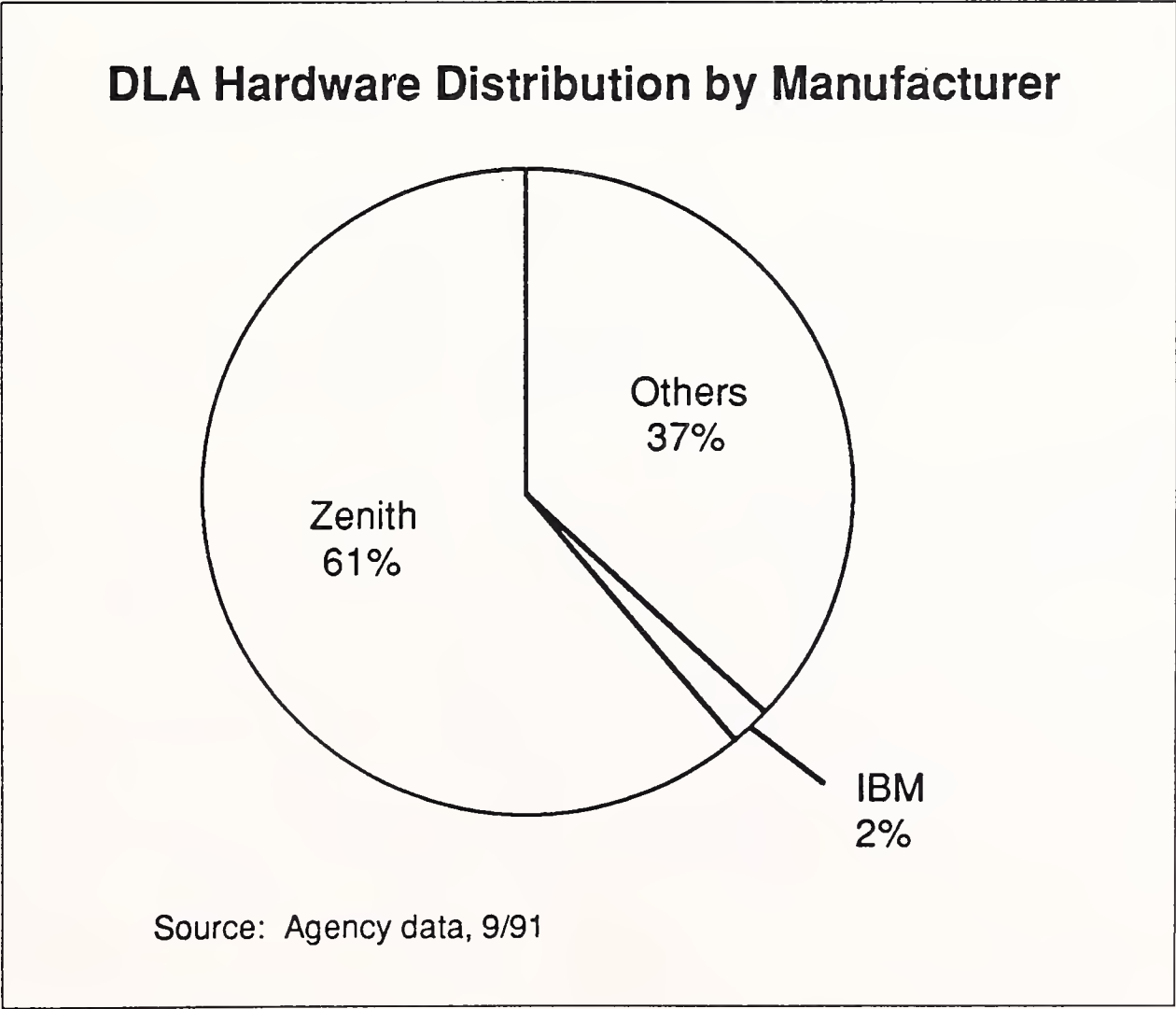


EXHIBIT III-6

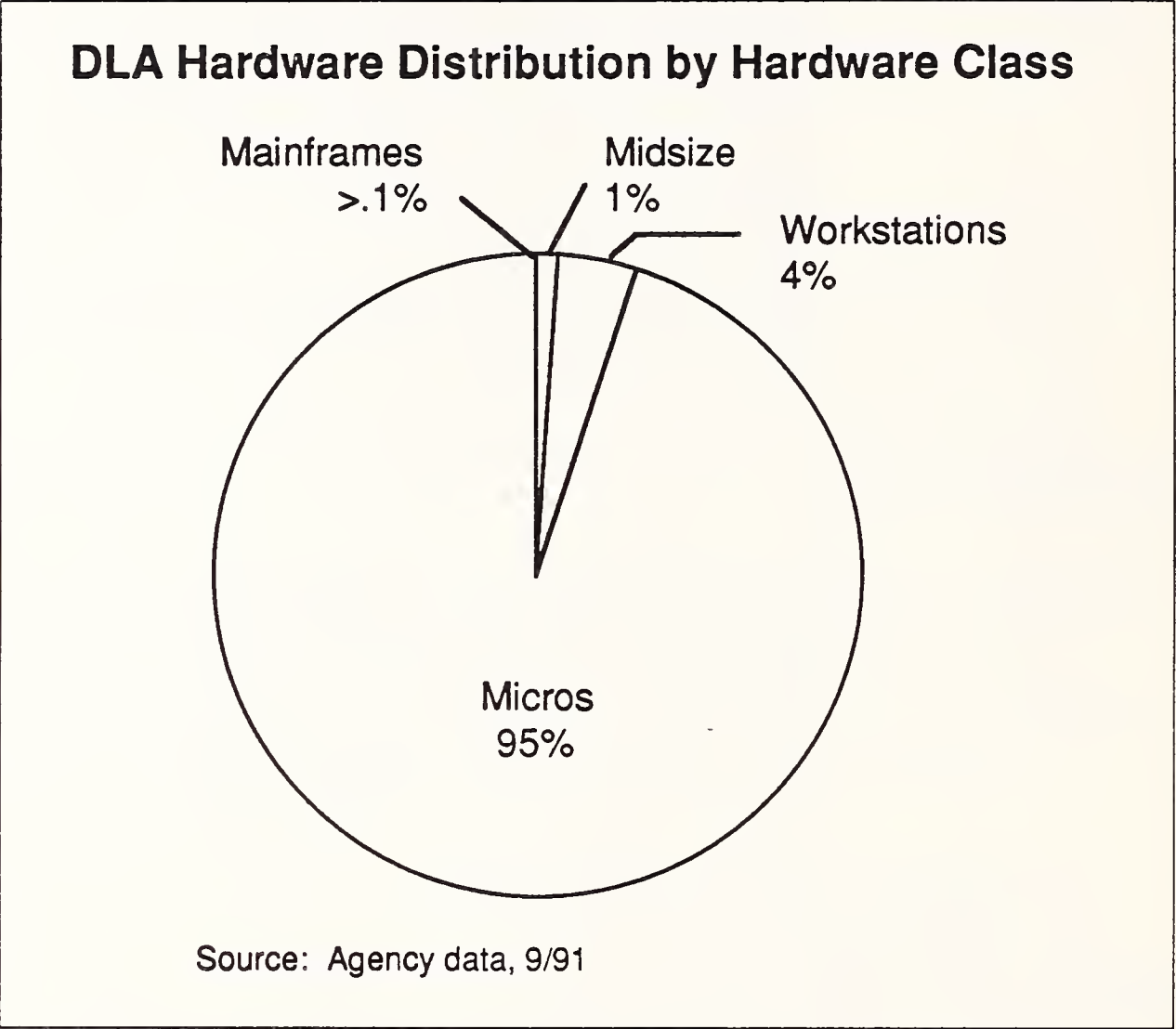


EXHIBIT III-7

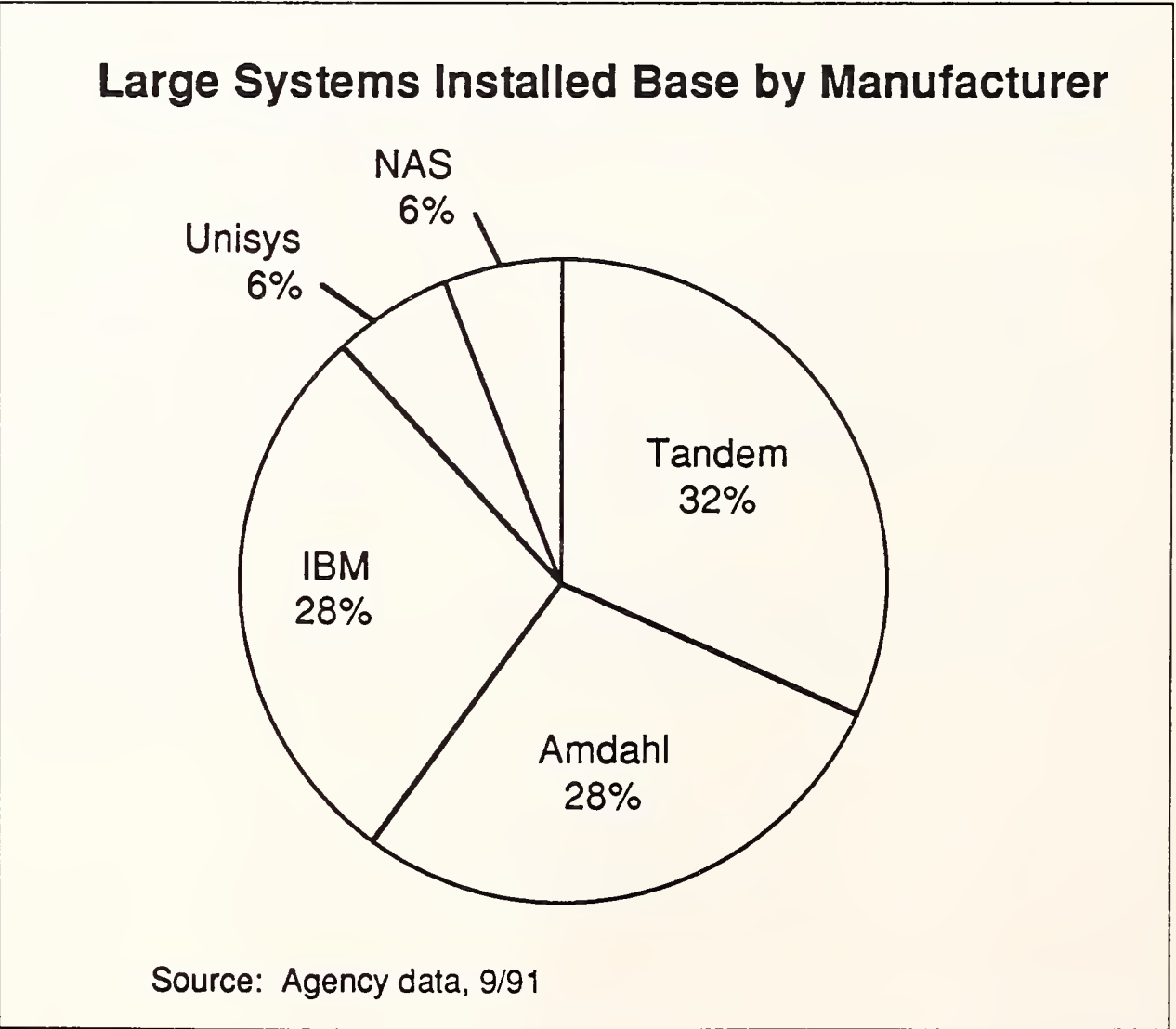
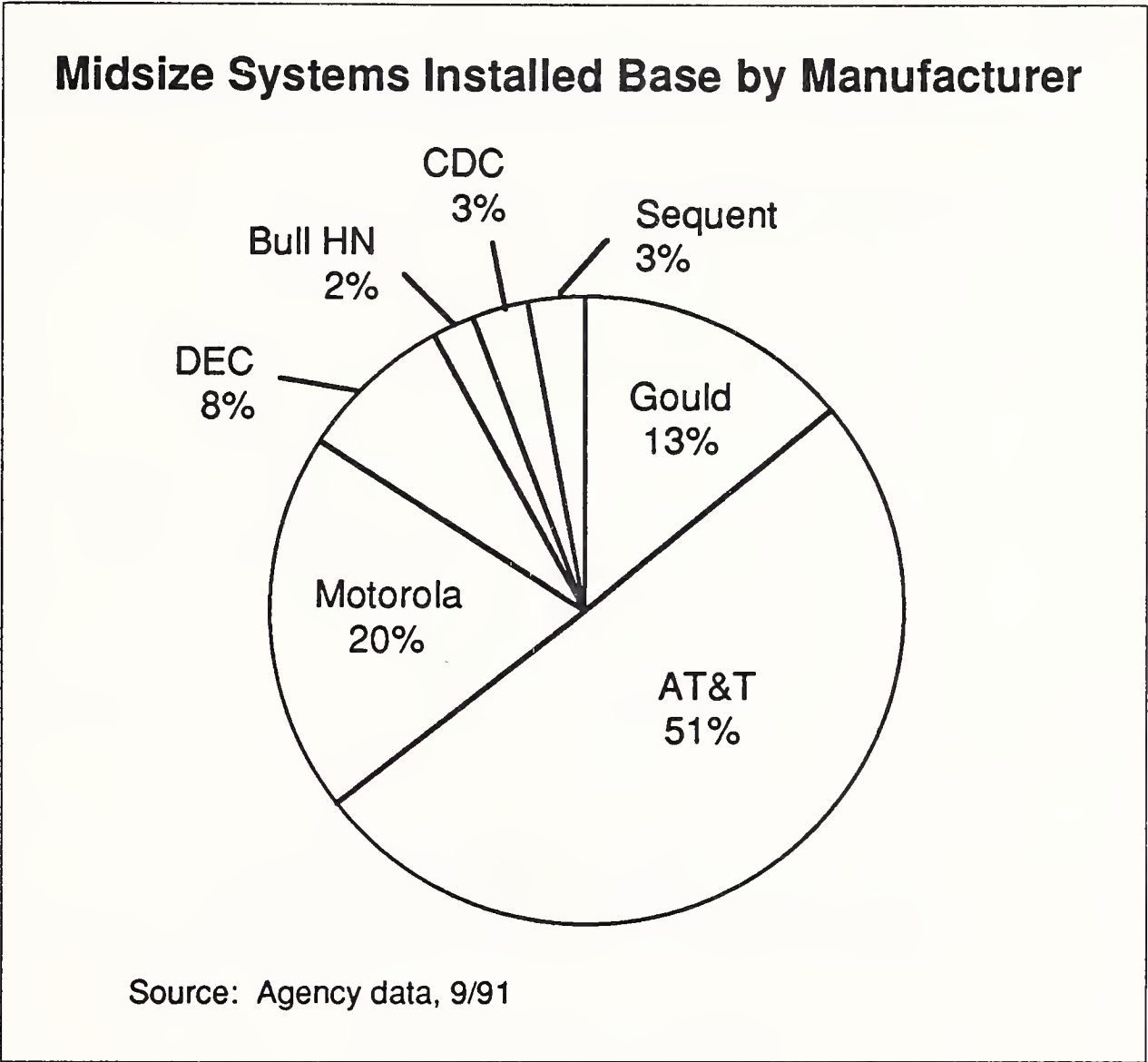


EXHIBIT III-8

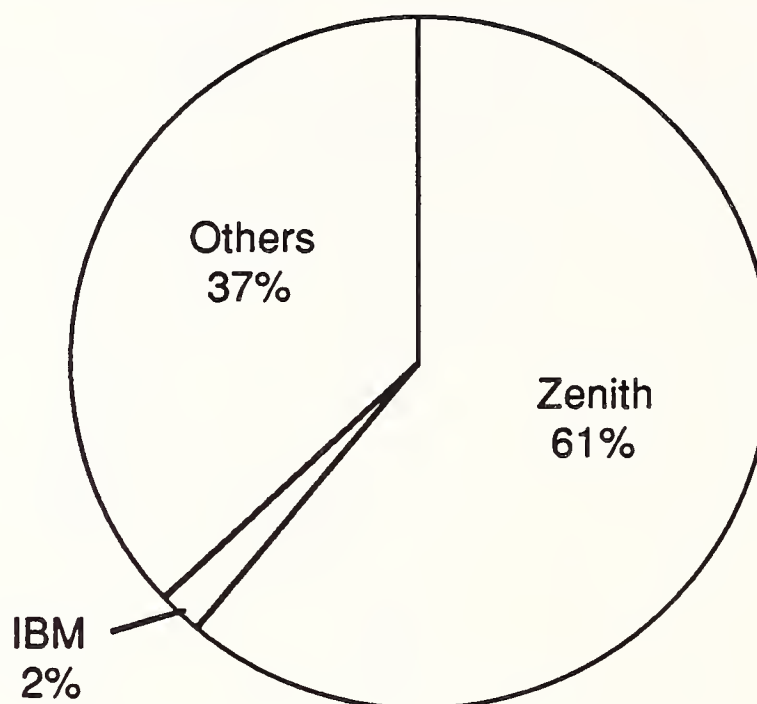


As one would expect, based on DLA's emphasis on bringing computing power to the users, microcomputers comprise 95% of the agency's computer equipment, and workstations 4%. Midsize systems currently account for 1%, and mainframe operations less than 1%.

DLA's mainframe computer environment principally consists of IBM and IBM/PCMs. However, Tandem is making significant inroads based on the recent acquisitions of Cyclone and VLX class machines. Most augmentations of existing systems usually result in MVS-based acquisitions.

Within the midsize systems class of computer systems, AT&T has gained the largest market penetration as a result of recent purchases of 3B2 machines. Motorola's base has declined by more than half since 1989. Gould, CDC and Bull HN have also experienced losses, while DEC and Sequent have gained slightly higher market shares.

EXHIBIT III-9

Microcomputer Installed Base by Manufacturer

Source: Agency data, 9/91

D**Information Systems Trends****1. Funding Levels**

Overall funding availability for information systems and services agencywide at DLA increased over the period 1986-1988 as perceived by both field and HQ policy level respondents in INPUT's 1989 survey, as shown in Exhibit III-10. The increase was a result of DLA's overall thrust to modernize existing ADP/T, and the development of new systems to improve productivity in supplying logistics and contract services. A very small sample of each of the respondent groups believed that information systems funding levels were decreasing or remaining the same. Actual funding levels since 1989 have remained flat, as DoD budget cuts were mandated.

Specific funding levels for each field activity averaged \$15 million per year during 1986-1988, with a drop of approximately \$1 million in 1989, according to the field-level respondents. They expected to see funding levels rise again to \$15 million in 1990, as depicted in Exhibit III-11.

EXHIBIT III-10

DLA Information Systems and Services Funding History, 1986-1988		
Funding History	Percent of Respondents	
	Policy	Field
Increasing	60	79
Decreasing	10	14
Remaining the same	10	7
Don't know	20	0

EXHIBIT III-11

Information Systems and Services Funding Levels for Field Activities		
Average Funding Levels (\$ Millions)		
FY1986-FY1988	FY1989	FY1990
15.0	13.9	15.0

2. Centralized/Decentralized Directions

DLA’s automated tools that exceed \$15,000 to purchase or implement in one year are controlled by the DLA-Z organization headquartered at Cameron Station, Virginia. Headquarters sets policies and procedures for acquisition of ADP/T resources and systems standardization. DLA-Z has oversight responsibilities for systems development, management review of operational systems, and daily operations. In addition, the Z organization provides all contracting services for the acquisition and maintenance of ADP/T resources, as shown in Exhibit III-12.

EXHIBIT III-12

DLA Information Systems Centralized/Decentralized Activities

Centralized	Decentralized
<ul style="list-style-type: none"> • Policy directions • Major AIS development • Management • Contracting services 	<ul style="list-style-type: none"> • Local midsize/PC requirements • Facilities management • Operations

Small local ADP requirements can be developed by the functional users at the Primary Level Field Activities without the involvement of the HQ-Z organization. Most of these requirements are PC-based and involve connectivity/networking tools. The current threshold of \$15,000 is expected to increase; however, the new limit is undetermined at this time. The number of small ADP procurements will continue to rise significantly in FY 1992, as a result of the agency's end-user computing thrust in combination with additional networking capabilities. Facilities management of ADPE is generally the function of the field organization housing the equipment.

In an effort to further define the types of decentralized ADP activity within DLA, INPUT asked field respondents in the 1989 study what types of mission-oriented contracting their groups had completed. Only 29% of this respondent group indicated that their respective organizations had "completed mission-oriented contracting." The types of application areas that were developed are listed in Exhibit III-13. The findings demonstrate that DLA systems development was usually not a localized activity, but was centrally managed. The trend has remained largely the same.

Field-level respondents were additionally asked if DLA's overall information systems planning supported their group's field modernization efforts. As shown in Exhibit III-14, their responses indicated that ADP/T modernization throughout the agency had been centrally developed and directed by HQ. DLA-Z's oversight and planning role is tighter in 1991 than it was in 1989.

EXHIBIT III-13

Mission-Oriented Applications

- Project management
- Data base
- Document

Note: 29% of respondents indicated their organizations had completed mission contracting.

EXHIBIT III-14

Field Perception of DLA Support for Field Information Systems Modernization		
DLA IS Planning Supports Field Modernization?	Percent of Respondents	Explanation
Yes	79	<ul style="list-style-type: none">• Through 3-tier architecture• HQ directs major efforts
No	21	<ul style="list-style-type: none">• Many players• Own staff

3. Other Trends Impacting Information Systems

The main trend driving DLA’s acquisitions of information systems and services in 1989 was to extend computing resources to all employees. Currently, over 60,000 DLA users can access agency information systems from their desktops using a myriad of hardware devices: microcomputers, terminals, intelligent workstations, etc. DLA will continue conducting phased replacements of obsolete equipment over the next few years.

The trends that will impact DLA's information systems acquisitions into the 21st century are summarized in Exhibit III-15.

EXHIBIT III-15

Trends Driving Information Systems and Services Plans

- Open systems
- Telecommunications
- Responsibility/workload
- EDI

DLA's need for truly "open systems" or "plug-in and play" technology will be the principal driver behind the agency's use of contractor products and services. Vendors with the ability to expeditiously interconnect existing systems will find DLA an eager customer. DLA, not unlike other agencies, must augment and extend systems access quickly. Leisurely deployment of systems will no longer be tolerated in the DoD agencies. Solutions must quickly become operational to achieve targeted resource savings.

As DLA extends systems access to users in other services, additional telecommunications products and integration services will be required from contractors on a worldwide basis. DLA is gaining users by absorbing employees and functions from other DoD agencies, as well as broadening its customer base. Additional processing requirements must be met as more personnel are added to the DLA organization. DLA must also accommodate greater customer demands in response to CIM efforts in the areas of contract management, depot consolidation and materiel management.

DLA is increasingly using EDI elements to promote efficiency in fulfilling customer requirements. Both the Electronic Supplier/Customer Network (ESCN) and an electronic contracting network have been created. ESCN achieves computerized commerce between customers and suppliers, with DLA minimizing its function as a wholesaler. DLA serves only as the interface mechanism between DoD customers and suppliers, thereby limiting wholesale storage to critical items.

EDI enhanced SAMMS by allowing supply centers to exchange RFQs, supplier responses, and purchase orders using X.12 formats. SPEDE (SAMMS Procurement by Electronic Data Exchange) distributes information to bidders directly.

The HQ participants in the original study were asked whether mission goals or new technology innovations were the prime focus of information systems planning at DLA. The majority of respondents indicated that a combination of both factors was driving the agency’s modernization efforts, as depicted in Exhibit III-16. DLA does not implement “new technology” just because it is new. Instead, all DLA acquisitions of ADP/T must address the agency’s mission deficiencies in support of the military services. Vendors need to market their products’ strengths in combination with alleviating identified mission deficiencies to gain information systems and services market share within DLA. With budget constraints now even tighter, this trend has become more pronounced.

EXHIBIT III-16

Focus of Information Systems Planning (ISP)	
Focus of ISP	Percent of Respondents
Mission goals	20
Technology/progress	0
Mix	80

4. Systems Integration Directions

In 1989, the majority of interviewees (75%) expected the number of systems integration projects to increase over the next five years, as depicted in Exhibit III-17. None expected the number to decrease or remain at present levels. The survey findings suggested that, despite the redirection of LSMP, agency officials remained optimistic on the future role of SI in DLA’s overall systems modernization. Commercial turnkey large-scale integration projects have not occurred at DLA since the 1989 version of this report. Contractors have been involved in small, piecemeal projects. Historically, DLA has purchased systems’ components and performed integration efforts in-house. The same types of opportunities will continue through 1996, with a stronger emphasis on easily deployed open systems.

EXHIBIT III-17

**Trends in DLA SI Projects
FY 1990 - FY 1994**

Number of Systems	Percent of Respondents
Increasing	75
Decreasing	0
Remaining the same	0
Don't know	25

Headquarters policy-level respondents were asked in the 1989 study if, in their opinion, GSA's advocacy of the modular approach to integrated systems designs had affected DLA's approach to the LSMP efforts. Their responses, shown in Exhibit III-18, indicated that 40% believed DLA had revised its approach to LSMP as a partial result of GSA's recommendations. Sixty percent were not aware that GSA's "modular approach" was directly impacting how the agency was restructuring its information systems. The data suggest that many DLA policy level personnel believed DLA's restructuring of LSMP was a result of the agency's reassessment of the scope and complexity of the previously envisioned large-scale effort. It also suggests a recognition by DLA personnel of the hazards of large-scale procurements. This does not preclude, however, small to midsize SI efforts to meet more modular agency needs.

EXHIBIT III-18

Impact of GSA's Modular Approach on DLA's Integrated Systems Requirements	
Impact DLA Approach?	Percent of Respondents
Yes	40
No	0
Don't know	60

E

Procurement Trends

1. Projected Uses of Information Systems and Services

The majority of both respondent groups expected the amount of information systems and services support that DLA would procure during the period FY 1990-FY 1994 to increase, as shown in Exhibits III-19 and III-20.

EXHIBIT III-19

Projected Information Systems Usage at DLA FY 1990 - FY 1994 HQ Perceptions		
Expected Use	Percent of Respondents	Reasons
Increasing	78	<ul style="list-style-type: none">Improves productivityOffice automation spreadNew technologyIncreased requirementsSystems modernization
Decreasing	0	
Remaining the same	22	<ul style="list-style-type: none">Budget constraints

EXHIBIT III-20

**Projected Information Systems Usage at DLA
FY 1990 - FY 1994
Field Perceptions**

Expected Use	Percent of Respondents	Reasons
Increasing	79	<ul style="list-style-type: none"> • Office automation spread • Increased requirements • LAN and WAN use • Improve productivity • Turnkey systems
Decreasing	0	
Remaining the same	7	<ul style="list-style-type: none"> • Budget constraints
Don't know	14	

Respondents were hopeful that the agency would receive additional appropriations when new IS projects were announced to assist in agency ADP/T modernization efforts. The rationales supporting their opinions also were similar. Productivity gains through agencywide information systems were needed, especially in light of staffing reductions and increased requirements from the military services utilizing DLA supply functions. Automating office procedures throughout the agency was believed to assist in improving the DLA's overall efficiency. Many of the existing AISs did not permit data exchange across AISs, were data redundant, and could not be enhanced to support functional changes. In spite of severe budget constraints since 1989, DLA has successfully placed some form of desktop computing on every user's desk.

The availability of new technology that would expedite information processing and increased use of LANs and WANs to allow connectivity of DLA systems was viewed by respondents as driving the agency's IS needs.

Respondents in both sample groups that viewed information systems' usage at DLA as "remaining the same" cited federal government budget constraints as the underlying reason for their opinion. They were not optimistic that DLA would receive the additional funding necessary to accomplish its information systems modernization goals.

2. Agency Preferences for Information Services Vendors

Respondents' preferences for the types of vendors from which they preferred to purchase information systems and services are shown in Exhibit III-21.

EXHIBIT III-21

Agency Preferences for Information Systems and Services Vendors

Vendor Type	Ranking* of Service Categories					
	Processing Services	Network Services	Software Products	Professional Services	Turnkey Systems	Systems Integration
Hardware manufacturer	2	-	3	5	2	3
Systems integrator	5	-	2	3	2	1
Professional services firm	3	3	5	1	5	4
Software manufacturer	5	-	1	-	1	4
Not-for-profit organization	1	2	4	17	-	-
Communications supplier	4	1	6	4	2	2

*Rank based on frequency of mention by respondents.

Although DLA does not purchase significant amounts of processing services from contractors, field respondents indicated that not-for-profit organizations would be their first choice for a vendor to supply these services. DLA, in its role as an agency of the Office of the Secretary of Defense, has used such firms as Mitre Corporation and the Logistics Management Institute for support. However, INPUT is not aware of any not-for-profit firms that provide processing services. Hardware manufac-

turers were ranked second, perhaps indicating a smaller markup for processing services from these types of contractors. For contracted network services, software products, professional services, and systems integration assistance, respondents selected the type of vendors that would appear to possess the associated technical expertise for each service area as their first choice. When purchasing turnkey systems, respondents chose software manufacturers over other types of contractors.

F

Contracting History

DLA's contractual obligations for ADP services and equipment and telecommunications equipment more than doubled from 1987 to 1990, as shown in Exhibit III-22. All categories, with the exception of telecommunications equipment, reflect significant growth.

EXHIBIT III-22

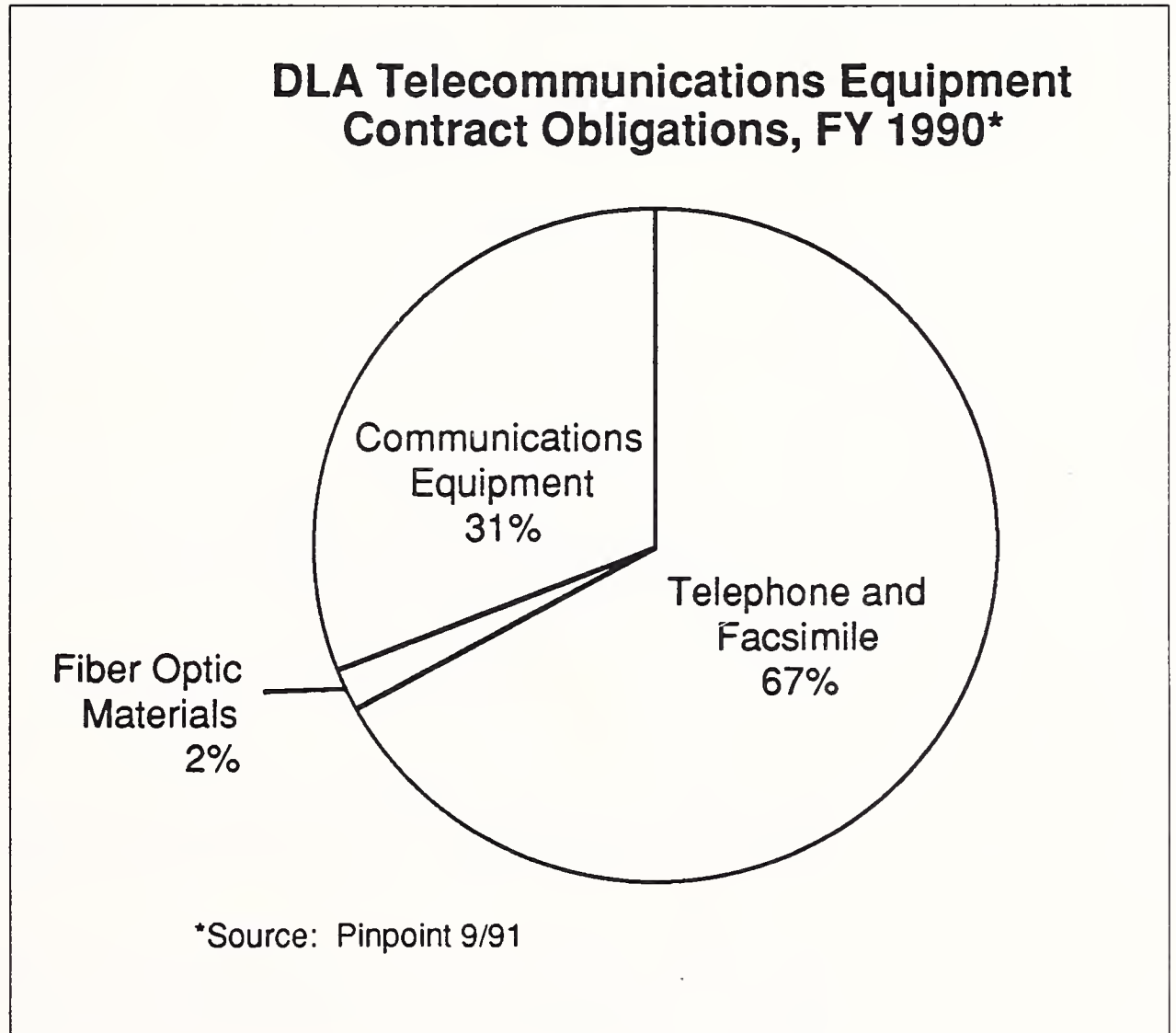
DLA Contracting History by Service Categories FY 1987-FY 1990*

Service Category	Contract Obligations (\$000s)			
	FY87	FY88	FY89	FY90
Telecommunications Equipment	15,372	16,823	8,840	8,924
ADP Equipment Market	50,187	82,752	70,656	102,170
ADP Services Market	7,031	24,606	42,473	30,588
ADP Equipment Related Services	4,889	13,231	21,404	15,760
Total	77,479	137,412	143,373	157,442

*Source: Pinpoint 9/91

The telecommunications category includes fiber optic materials, communications, and telephone and facsimile equipment. As shown in Exhibit III-23, telephone and facsimile equipment account for two-thirds of the largest share of contract obligations for FY 1990.

EXHIBIT III-23



If telephone contract obligations were included in Exhibit III-24, Ameritech would be the lead vendor for FY 1990, followed by ITT and AT&T. However, the exhibit shows that Allied Signal and Memorex Telex dominate the market because of contracts obligated for fiber optic materials and other forms of communications equipment.

Telephone equipment contract awards are awarded for longer periods than other ADP/E types of contracts. Federal agencies, not unlike commercial sector companies, do not change their phone systems frequently, or continually make large purchases on a yearly basis. Telephones are infrequently bought commodities.

EXHIBIT III-24

DLA Leading Telecommunications Equipment Suppliers, FY 1990*

Vendor	Obligations (\$000s)
Allied Signal	569
Memorex Telex	486
Mar Associates	254
AT&T	210

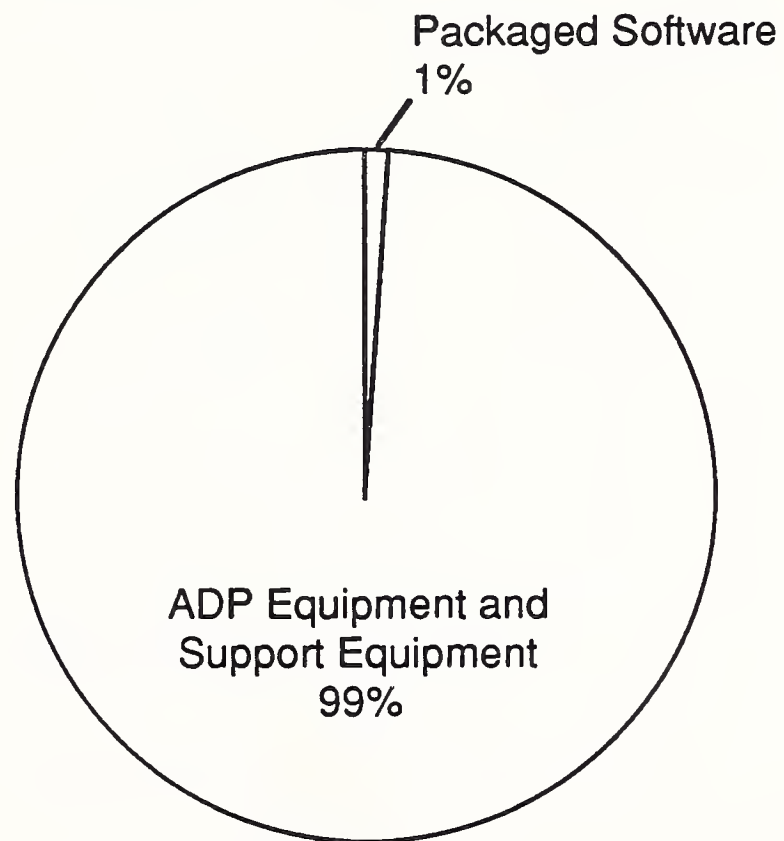
*Overall agency obligations were \$2.9 million.
This excludes telephone and facsimile
equipment obligations.

Source: Pinpoint 9/91

The ADP equipment market category includes packaged software and the code ADP equipment and support equipment, as shown in Exhibit III-25.

During FY 1990, 99% of all recorded contract obligations were allocated for ADP equipment and support equipment. This category's significant growth in FY 1990 is primarily attributable to an award made to Grumman for DLSC/DIDS. Exhibit III-26 shows Grumman as the top vendor for ADP equipment in FY 1990. Oracle placed second as an equipment supplier as a result of its success in winning the Cataloging Tools On-Line (CTOL) contract. The equipment environment at DLA supply centers, DLSC, and DIPEC will be enhanced and augmented with midsize computers and optical storage devices through CTOL. Unisys supplies workstations to DLA through the Desktop III contract. DLA is also building its midsize equipment base with AT&T 3B2 systems through the AFCAC 251 contract. DLA intends to continue purchasing incrementally as replacements and enhancements to existing systems are required.

EXHIBIT III-25

**DLA ADP Equipment Market
Contract Obligations, FY 1990**

Source: Pinpoint 9/91

EXHIBIT III-26

DLA Leading ADP Equipment Suppliers, FY 1990*

Vendor	Obligations (\$000s)
Grumman	60,261
Oracle	12,800
Unisys	4,000
NCR	3,900
Computer Dynamics	3,400
AT&T	3,400

*Source: Pinpoint 9/91

Overall agency obligations were \$101.3 million.

Leading packaged software vendors for FY 1990 are listed in Exhibit III-27. Although the federal government has promoted the use of packaged software solutions to government agencies, DLA's contract obligations for FY 1990 were just under \$1 million. Most of DLA's purchases for software packages are limited to office automation applications.

Only 1% of the ADP equipment related services category was obligated for office machine services, as illustrated in Exhibit III-28. The leading vendors provide equipment installation, maintenance and repair services to DLA. Their agency obligations in FY 1990 are listed in Exhibit III-29.

EXHIBIT III-27

DLA Leading Packaged Software Vendors, FY 1990*

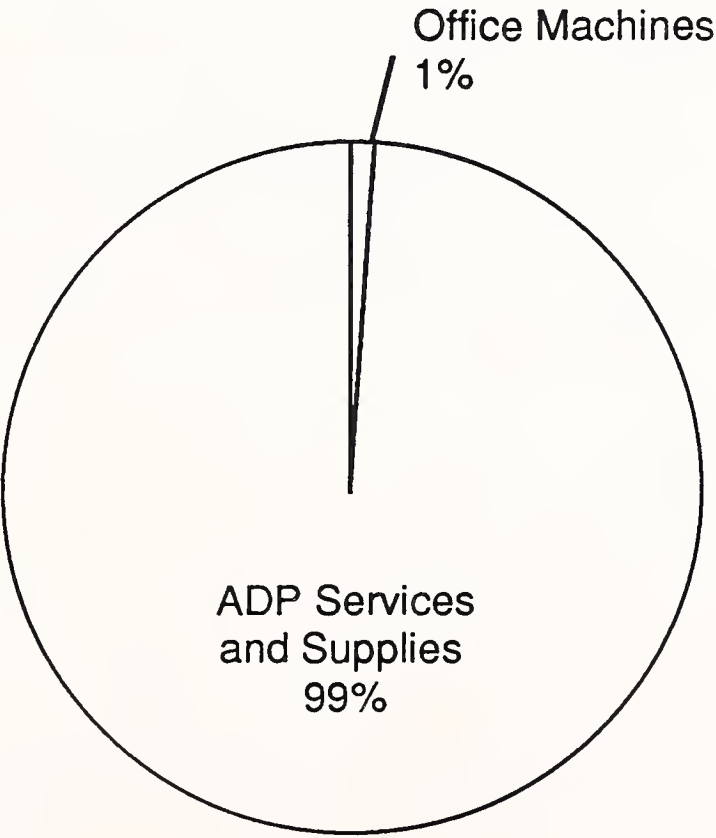
Vendor	Obligations (\$000s)
Boole & Babbage	245
SAS Institute	215
Syncsort, Inc.	96
Compuware	87

*Source: Pinpoint 10/91

Overall agency obligations were \$.9 million.

EXHIBIT III-28

DLA ADP Equipment-Related Services Contract Obligations, FY 1990*



*Source: Pinpoint 9/91

EXHIBIT III-29

DLA Leading ADP Equipment-Related Services Vendors, FY 1990*

Vendor	Obligations (\$000s)
Storage Technology	2,721
Wilson Hill Associates	2,455
Motorola	1,863
Federal Computer Corporation	1,644
Memorex Telex	1,254

*Source: Pinpoint 9/91

Overall agency obligations were \$16 million.

DLA's 1990 contract obligations for information systems design, programming and other custom services for software and telecommunications are shown in Exhibit III-30. Approximately 40% of the contracts were directed at systems development and 60% on other custom efforts. The top contractors are presented in Exhibit III-31. The large share of agency obligations in 1990 belonging to National Capitol Systems will not continue in 1991. Its contract providing program management support for the SAMMS I3 project was cancelled in December 1990. SAMMS, now under evaluation by the Center for Information Management's Corporate Information Management (CIM) umbrella, is expected to be considerably downsized.

EXHIBIT III-30

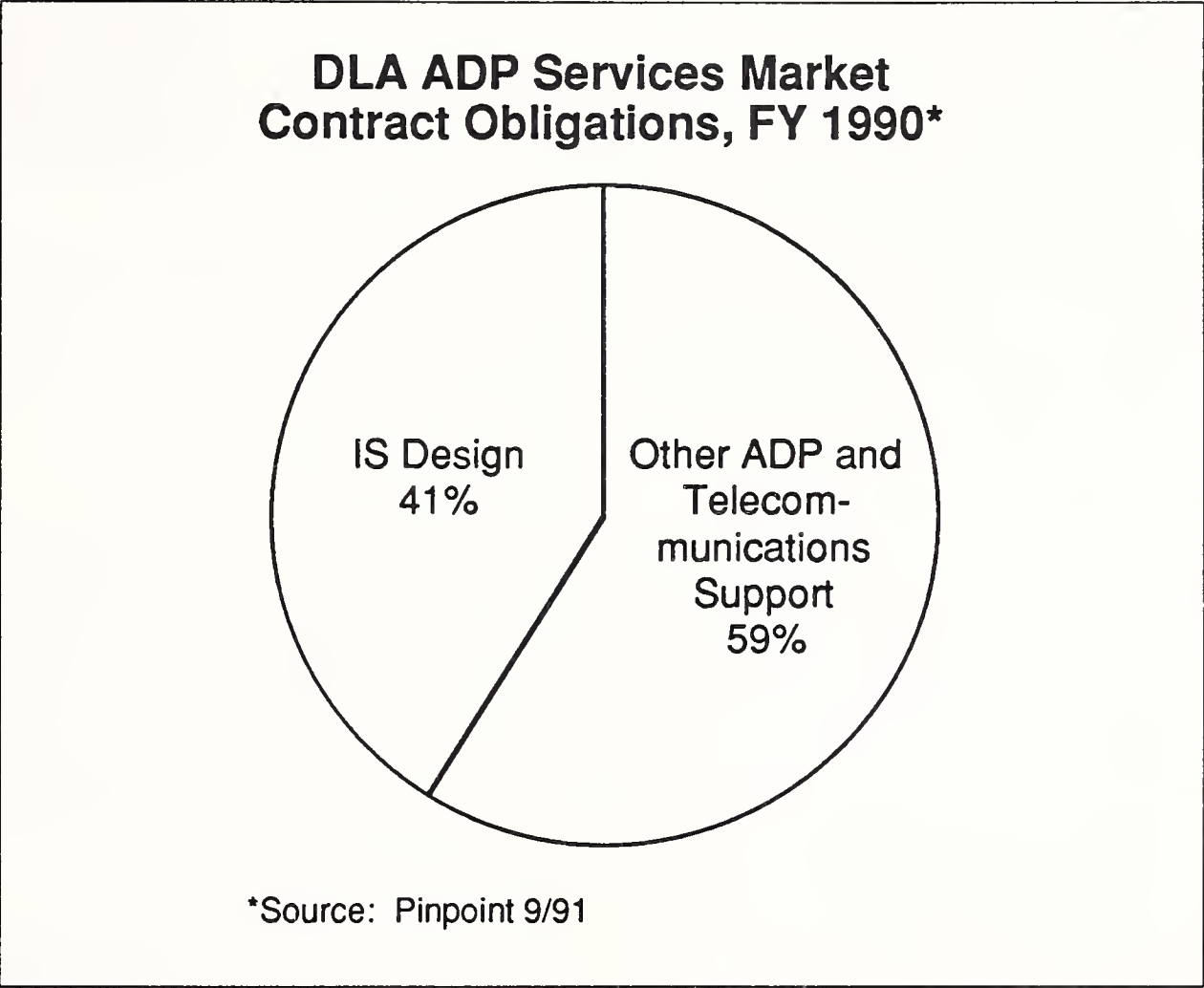


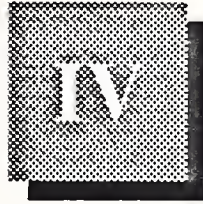
EXHIBIT III-31

DLA Leading ADP Services Vendors, FY 1990*

Vendor	Obligations (\$000s)
National Capitol Systems	11,994
Network Solutions	4,616
Unisys	4,034
Xerox	1,906
Wilson Hill Associates	950

*Source: Pinpoint 9/91

Overall agency obligations were \$31 million.



Defense Logistics Agency Market Forecast

When developing market forecasts for particular agencies, variables such as appropriations, management focus, customer expectations, and procurement success can have a major effect on out-year funding. When looking at market forecasts for the entire government, many of these factors tend to cancel each other out over the long haul. However, an individual agency may experience dramatic shifts from year to year in resource availability.

A

Overall Resource Projections

The original INPUT study of DLA examined overall resource projections to see the role that information systems were to play at DLA. At that time, the agency expected that an increasing workload, along with aging facilities and equipment, would cause an increase in operating costs over the next few years. Information systems acquisition costs were also expected to rise for the next few years, and then drop sharply after 1992. DLA hoped that in the long run, productivity gains resulting from the near-term IS investment would accrue. DLA also hoped that, during the out years, the agency would be able to provide increased and improved services with fewer resources.

Although the numbers in DLA's FY 1992 budget have shifted somewhat from those projected in 1988, the data suggests that DLA still intends to replace most remaining aging equipment prior to FY 1993. DLA's FY 1992 budget request is extracted in Exhibit IV-1. A sharp overall increase is projected for FY 1992, with IT capital investments accounting for 82% of the increase from 1991. A dramatic drop is expected in FY 1993 in capital investments, reducing the overall budget request to its lowest in years.

EXHIBIT IV-1

Line Item Summary of DLA's IT Budget Request—FY 1992-FY 1996*

	Funding (\$000s)			
	1990	1991	1992	1993
Capital Investments	71,584	79,872	126,972	43,853
Personnel	136,173	145,626	146,187	142,760
Equipment Rental, Space and Operating Costs	10,140	10,765	11,089	11,336
Commercial Services	92,719	92,842	100,358	96,754
Interagency Services	12,309	12,651	14,778	13,992
Totals	322,925	341,756	399,384	308,695

Source: DLA's Spring 1991 Budget Submission for FY 1992 under OMB A-11 section 43A guidelines.

Examination of DLA's FY 1992 budget breakdowns for modernization efforts only reveals that most new IT equipment purchases are not expected to be procured as modernization projects, as shown in Exhibit IV-2.

The two columns reflecting modernization funding do not equal the amount represented in the total funding column. A difference of \$200 million or more exists per year. These funds are designated for operating and maintenance functions. INPUT expects operational funding levels to at least remain stable, if not increase over the next five years. Modernization funding is expected to drop as less official emphasis is placed on modernization or new initiatives. DLA will continue augmenting existing systems capabilities, and will increase their accessibility over the next few years.

EXHIBIT IV-2

DLA IT Budget Requests*			
Fiscal Year	Funding (\$000s)		
	Total IT	Development & Modernization	Miscellaneous Development & Modernization
1990	322,925	108,004	15,476
1991	341,756	112,631	14,696
1992	399,384	134,970	50,199
1993	308,695	76,525	26,551

*Based on DLA's spring 1991 budget submission for FY92 under OMB A-11 Section 43A guidelines.

B

Market Segment Forecasts

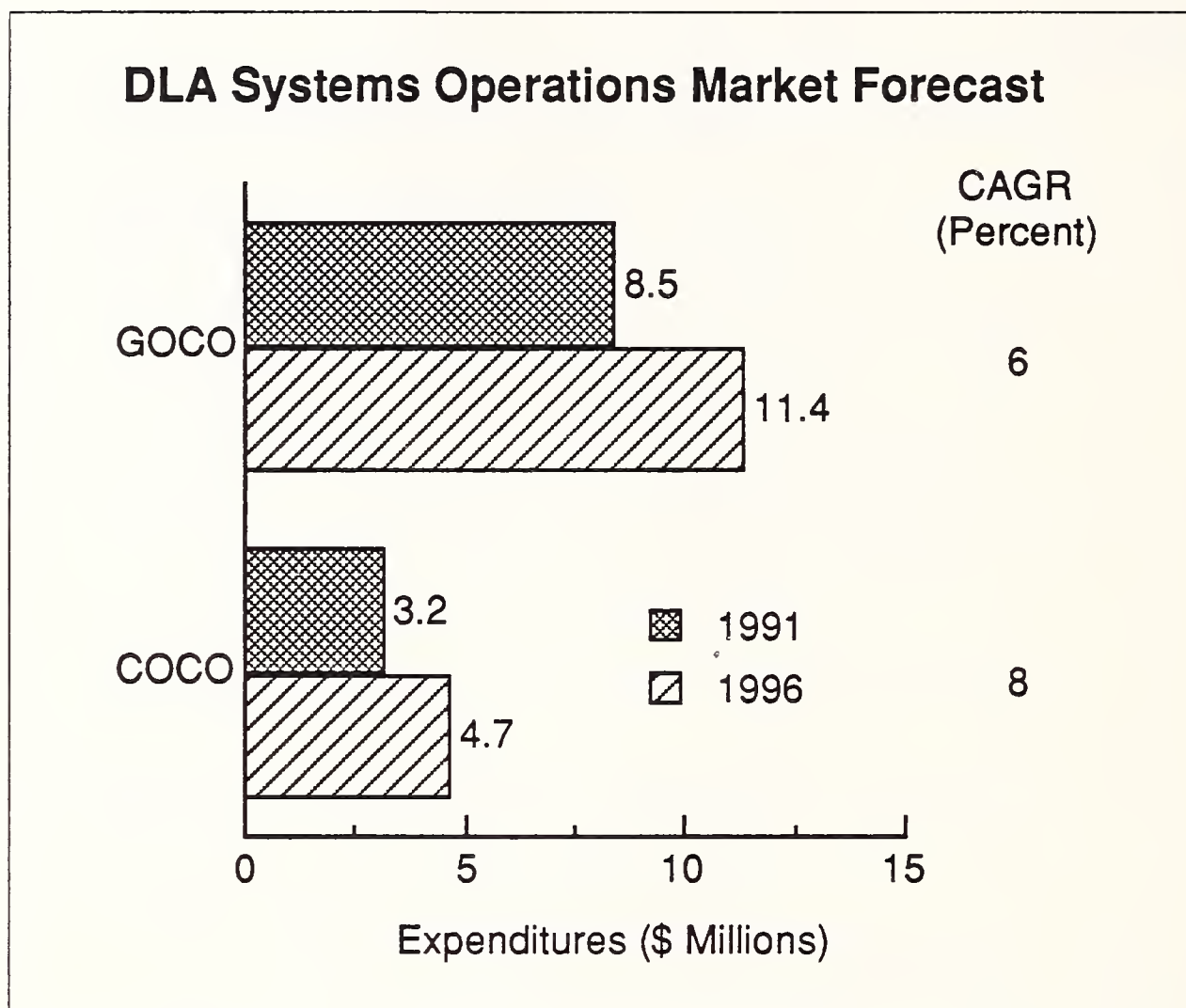
Based on DLA’s A-11 budget submission, individual initiatives that can be identified and sized, interviews with DLA, and various reports and articles from secondary sources, INPUT has developed segment forecasts for DLA. This section discusses those segments.

1. Systems Operations

The DLA systems operations market (previously referred to as facilities management) will grow from \$11.7 million in FY 1991 to \$16.1 million in FY 1996, at a compound annual growth rate (CAGR) of 7%, as shown in Exhibit IV-3. In a reversal of INPUT’s earlier findings, contractor-owned, contractor-operated (COCO) facilities are growing at a slightly faster rate than government-owned, contractor-operated (GOCO) activities. Overall, systems operations represents a very small part of DLA’s IRM budget.

Unlike agencies such as NASA and the Energy Department, DLA owns and operates most of its own computer facilities and makes relatively limited use of outside vendors in systems operations activities.

EXHIBIT IV-3

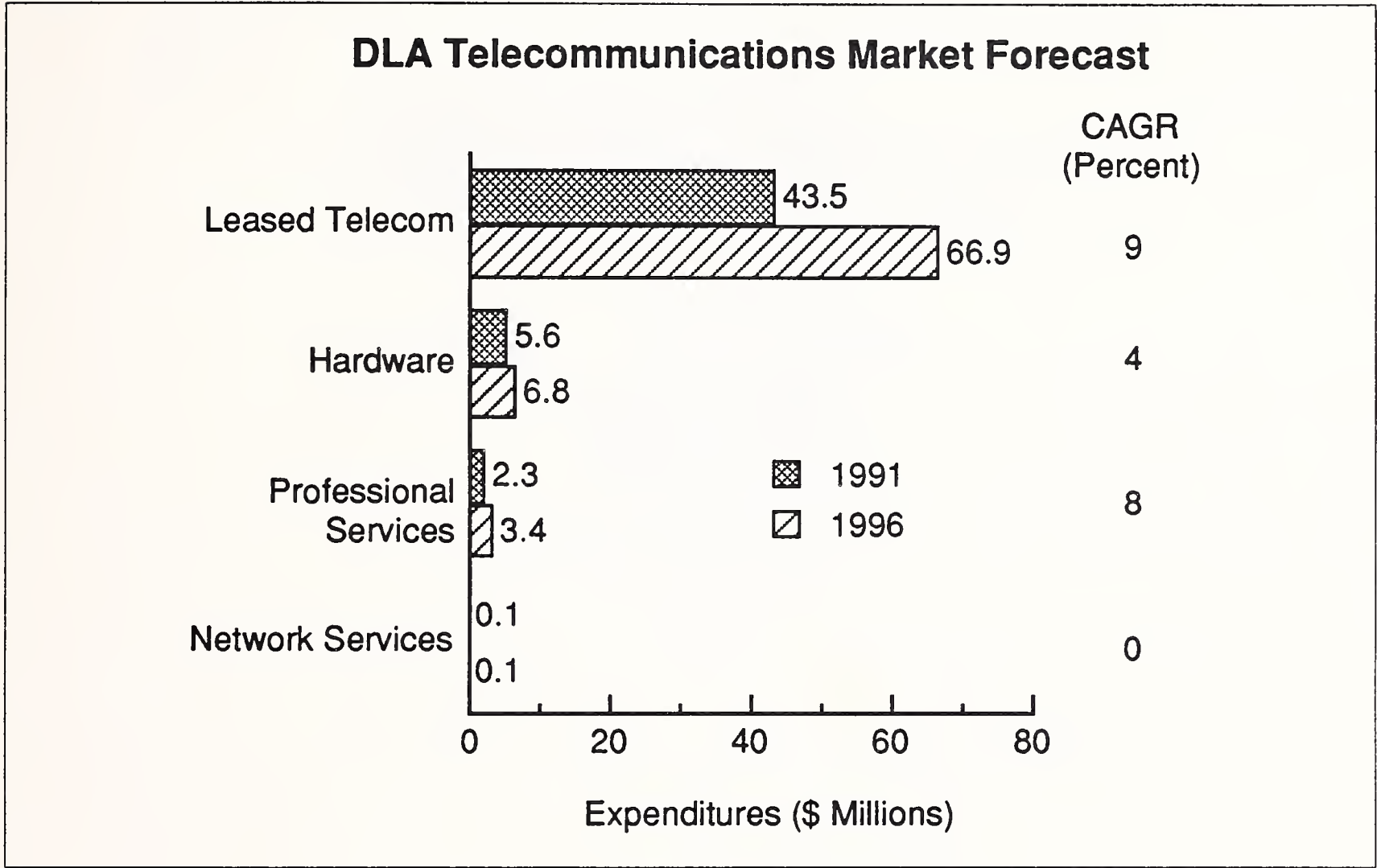


2. Telecommunications

The worldwide dispersal of DLA activities continues to dictate a fairly robust market for telecommunications-related activities. The telecommunications market will increase from \$51.5 million in FY 1991 to \$77.2 million in FY 1996, as Exhibit IV-4 indicates. As might be expected, leased telecommunications will continue to comprise the bulk of the market, although professional services for related activities will also grow fairly rapidly. INPUT expects DLA to acquire some network management services during the latter stages of the forecast period.

INPUT now expects telecommunications equipment spending to show modest growth (4%) over the forecast period. Equipment upgrades at DLSC and DAASO will account for most of this growth. EDI/CALS activities, including the growing popularity of the EDMICS project, will also help to fuel this growth.

EXHIBIT IV-4

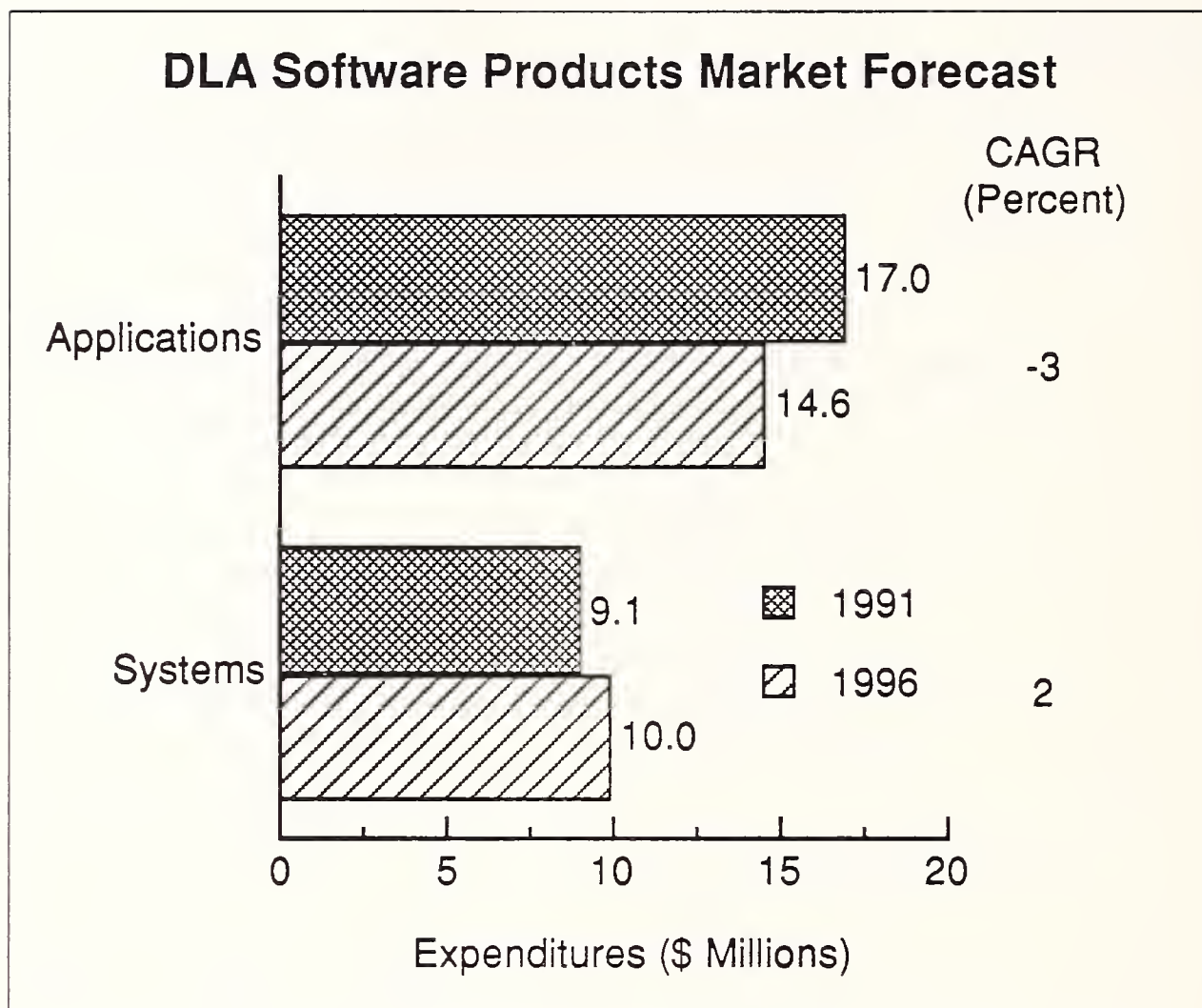


3. Software Products

Following a sharp increase in the last two years, the software products market will show a gradual decline over the next few years. INPUT expects DLA’s software spending to drop from \$26.1 million in FY 1991 to \$24.6 million in FY 1996. As Exhibit IV-5 shows, applications software will decline at an annual rate of 3%, while systems software grows at a 2% rate. In its summary budget data, DLA highlighted the need to upgrade its mainframe operating systems software at multiple sites. However, DLA also stated that applications software spending for various programs, such as DAASO’s Network Control System, will drop off in FY 1993.

Although DLA will invest in applications software for EDI, this will be primarily developmental in nature. As a result, INPUT includes much of it in professional services rather than software products.

EXHIBIT IV-5



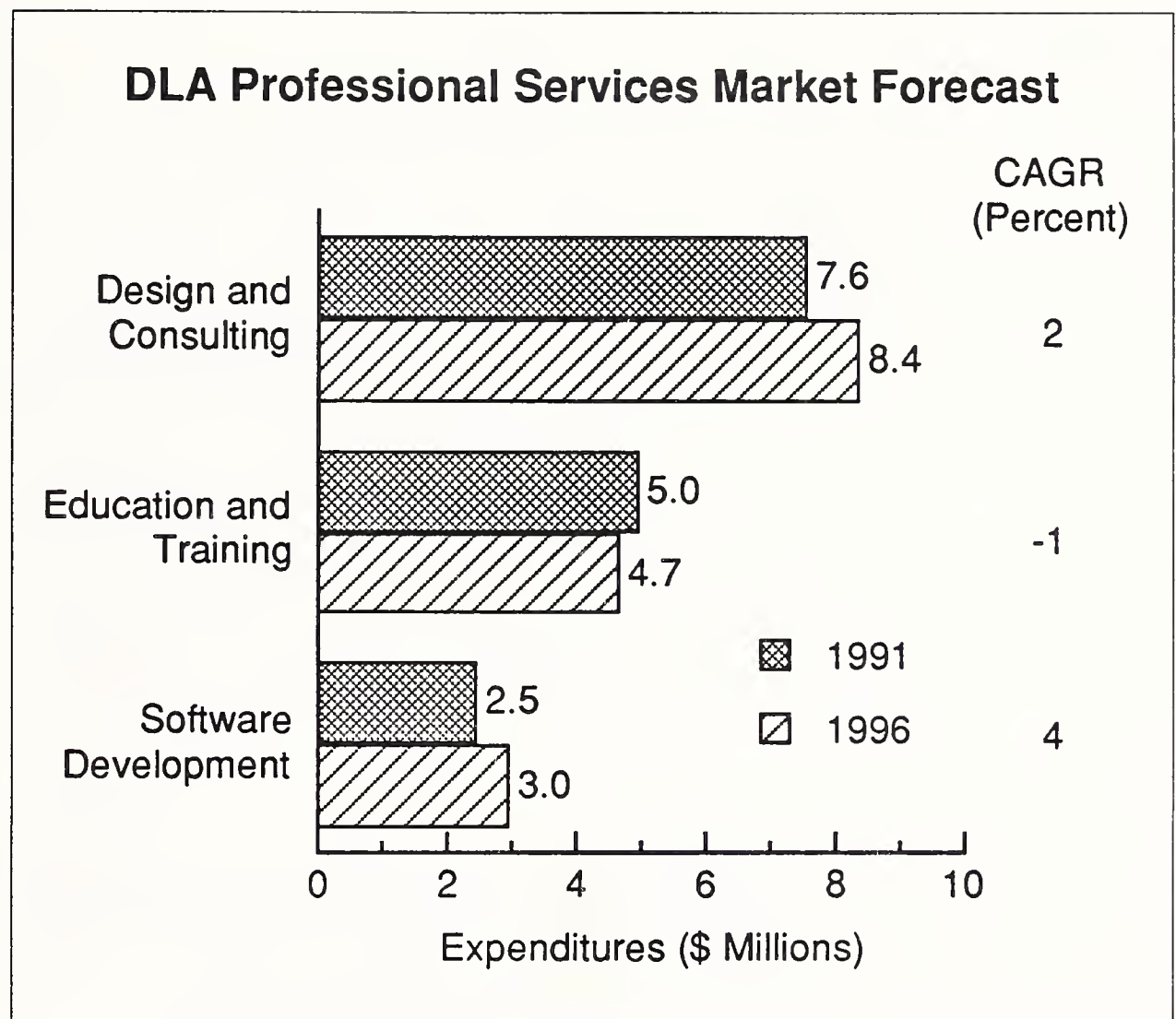
4. Professional Services

INPUT expects DLA's professional services market to remain fairly flat over the forecast period. It will grow from \$15.1 million in FY 1991 to \$16.1 million in FY 1996, at a CAGR of 2% (see Exhibit IV-6). Following a sharp drop in training spending over the last two years, INPUT expects this category to level off over the forecast period. However, based on current short- and long-range plans, INPUT sees no reason to expect an increase in spending.

Despite the fairly flat outlook, INPUT expects further opportunities to arise in consulting and project management. This includes assistance requirements in the following areas:

- Optical storage
- Systems integration and architecture
- Information engineering
- Technical architecture supported at DISMS
- Regionalization of information processing centers

EXHIBIT IV-6



5. Computer Equipment

Over the next few years, DLA's purchases of computer equipment will rise sharply and then fall almost as sharply. In its 43A submission to OMB, DLA predicted hardware spending, as shown in Exhibit IV-7.

DLA has identified several near-term equipment spending initiatives, including the following:

- 3B2 minicomputers (from AT&T) for localized applications at numerous sites
- Catalogue Tools On-line Systems from Oracle Complex Systems
- Implementation of DAASO's Logistics Information Processing System
- Acquisition of an additional mainframe multiprocessor to support Military Contract Management Operations
- A CPU upgrade at DLSC

EXHIBIT IV-7

Predicted Hardware Spending

Fiscal Year	Hardware Spending (\$ Millions)
1991	131.7
1992	158.6
1993	94.9

Based on DLA's fall 1991 A-11 budget submission for FY 1992.

- Tempest secure workstations to process classified information for the Defense Contract Management Command (DCMC)
- Purchases through the EDMICS contract

Because of congressional restraints on defense spending and continuing procurement delays, INPUT does not expect DLA to fully implement its hardware spending plans, at least in the timeframe specified. However, as indicated in Exhibit IV-8, INPUT expects the computer equipment market to grow from \$45.3 million in FY 1991 to \$64 million in FY 1996, at a CAGR of 7%. Workstations will show the highest growth rate as DLA takes better advantage of this technology for a variety of applications.

6. Office Information Systems

End-user computing initiatives will continue to ensure modest growth in DLA's office systems market. This market will grow from \$16.8 million in FY 1991 to \$22.7 million in FY 1996, at a CAGR of 6% (see Exhibit IV-9). Hardware acquisitions will absorb the bulk of this spending, and will continue to account for the largest growth rate. The reasons for this growth have already been discussed. DLA expects to achieve significant productivity gains through the implementation of office information systems.

EXHIBIT IV-8

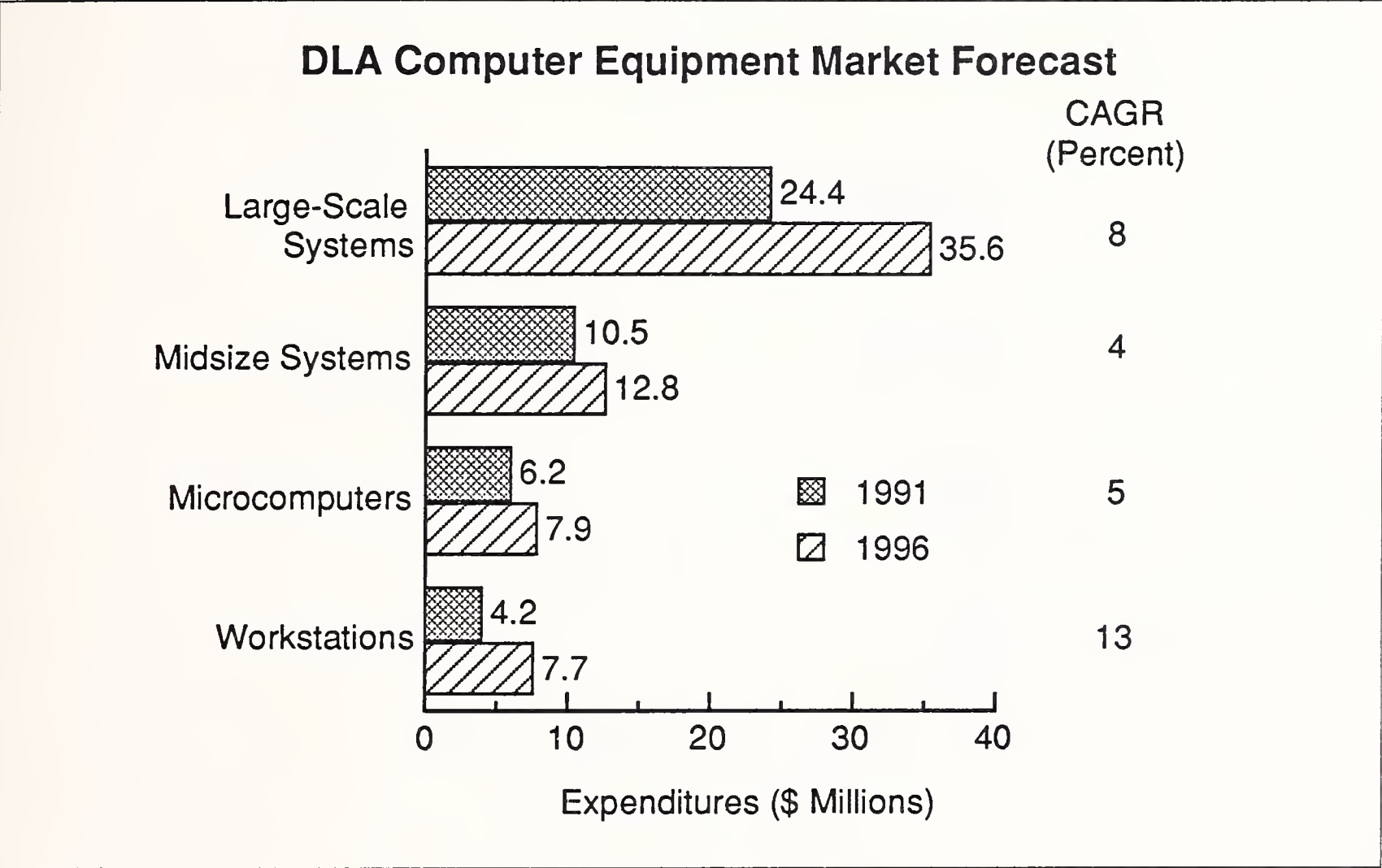
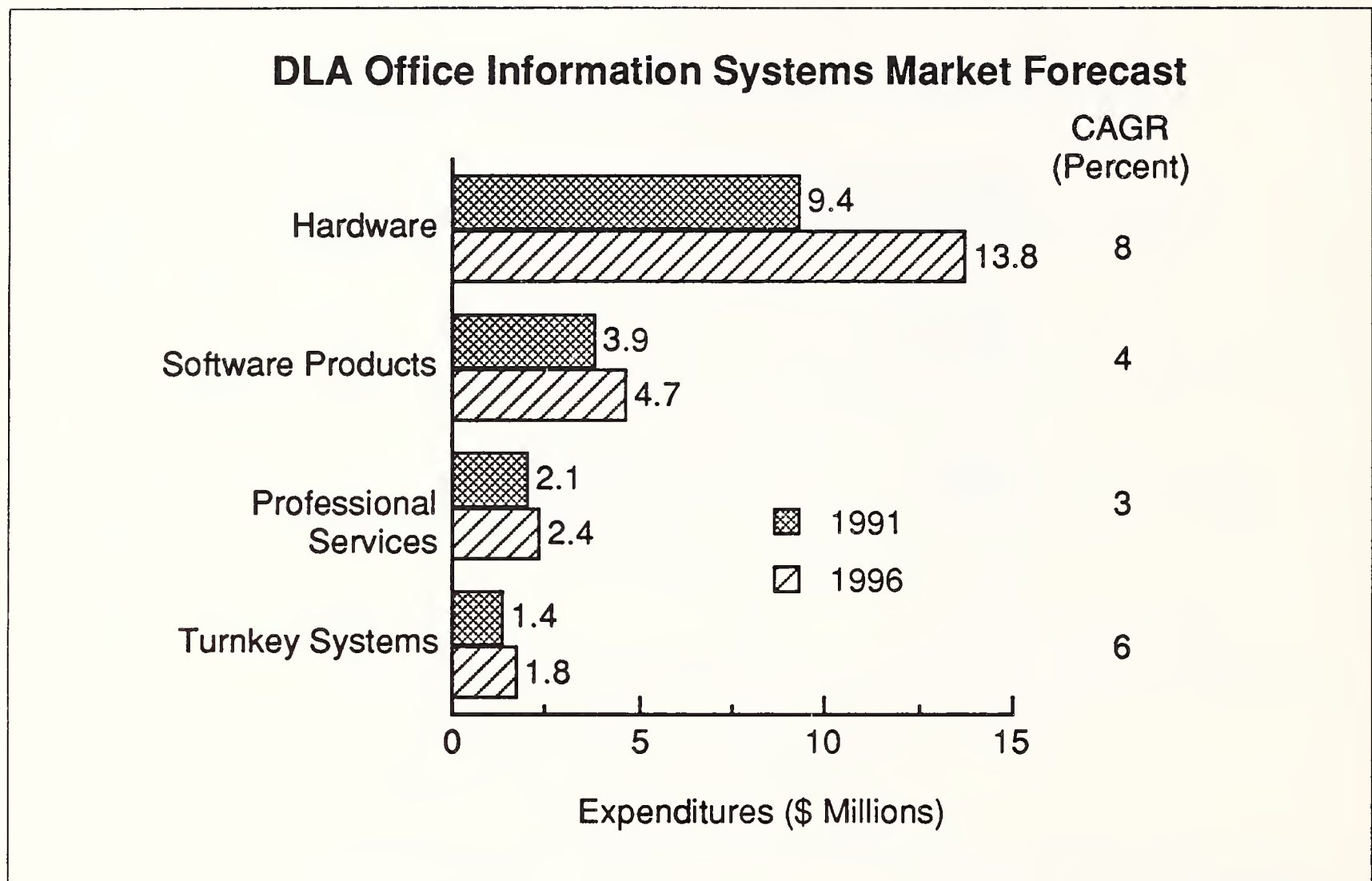


EXHIBIT IV-9

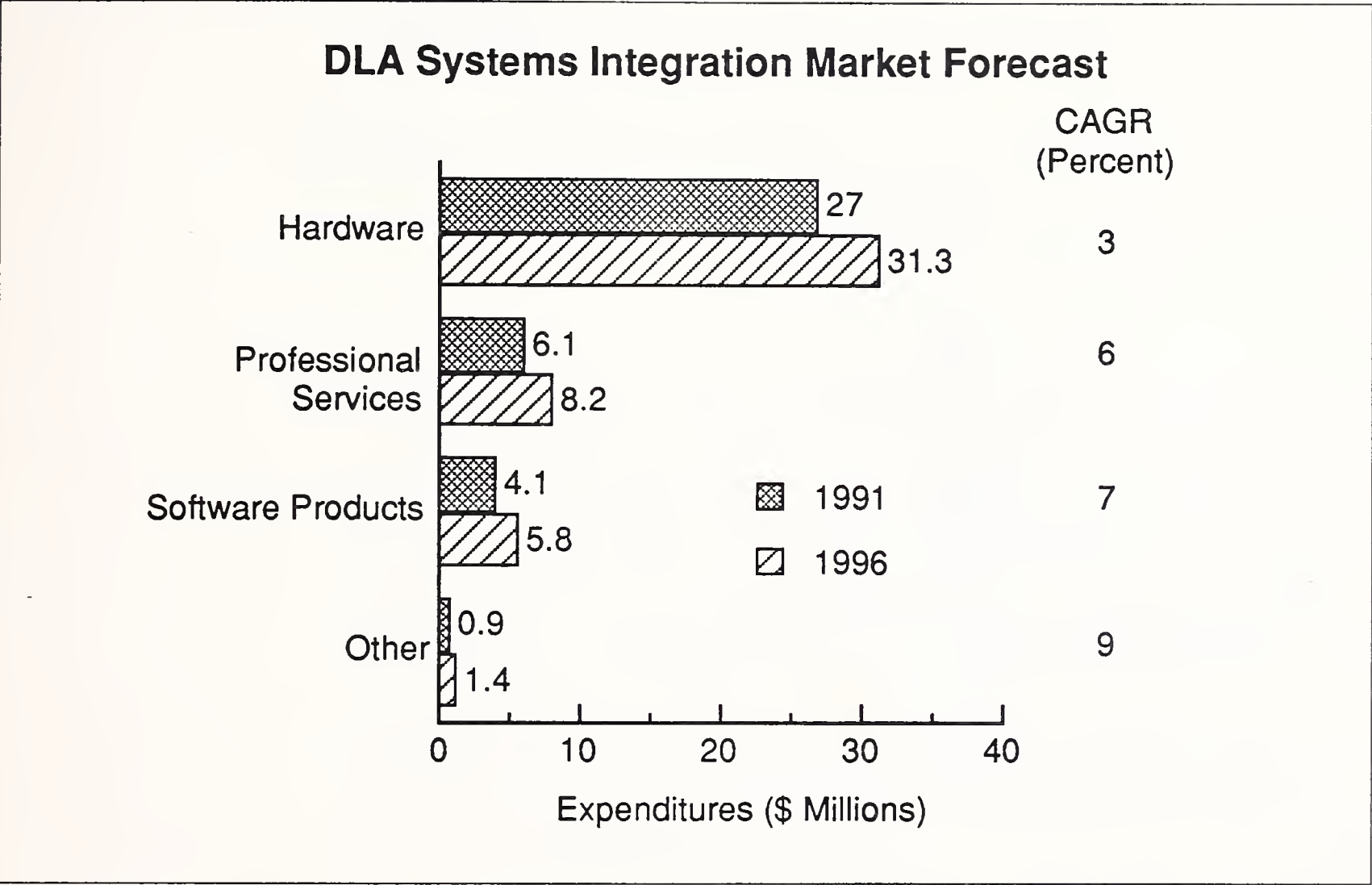


7. Systems Integration

For a variety of reasons, DLA has largely abandoned its Logistics Systems Modernization Program, as it was developed in the late 1980s. Defense budget cuts and the growing influence of the CIM initiative have reduced DLA's SI options. DLA will continue to perform most integration functions in-house. However, as discussed elsewhere in this report, INPUT expects several smaller initiatives to proceed over the forecast period. In addition, INPUT expects logistics systems to become more critical as the Defense Department downsizes. With available supplies decreasing, DLA may borrow commercial techniques, such as just-in-time inventory systems, to ensure necessary availability.

As a result, INPUT expects the SI market to grow from \$38.1 million in FY 1991 to \$46.7 million in FY 1996, at a CAGR of 4% (see Exhibit IV-10). Growth will not be uniform over the forecast period. Rather, spending will be flat or decline slightly during the early years. Later, spending will increase sharply.

EXHIBIT IV-10

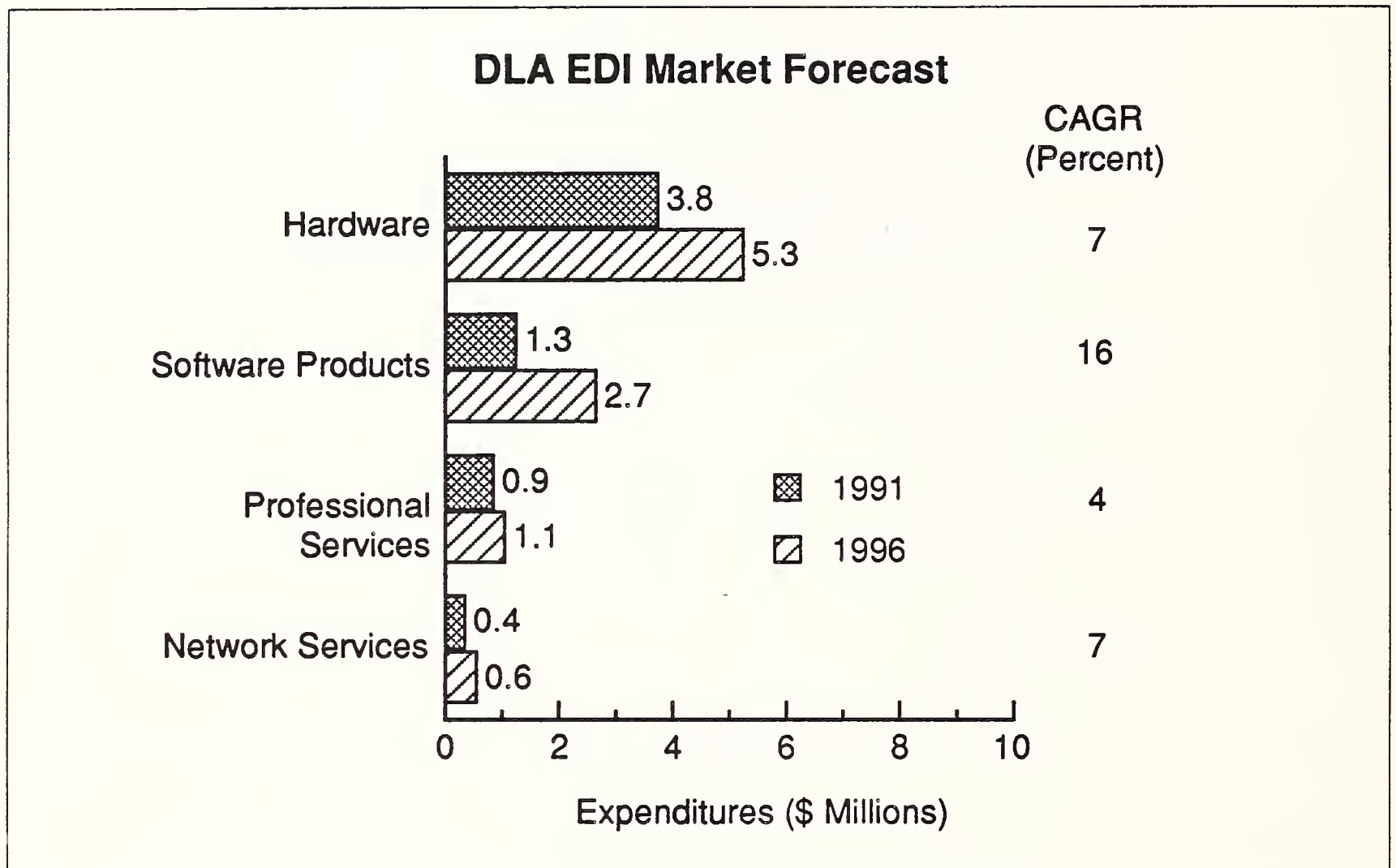


8. Electronic Data Interchange

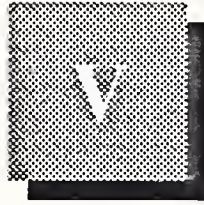
DLA’s EDI market continues to be fairly large relative to other agencies. This reflects DLA’s traditional leadership in commissary activities, as well as its current interest in CALS and various EDI initiatives, including the bulk fuels program, the Paperless Order Placement System, and the Procurement by Electronic Telecommunications System. DLA expects its EDI agreements with contractors to increase significantly over the next few years. The EDMICS Project has become a DoD CALS standard, which would further push up spending.

DLA’s EDI market will grow from \$6.4 million in FY 1991 to \$9.7 million in FY 1996, at a CAGR of 9% (see Exhibit IV-11). While hardware expenditures will continue to account for the bulk of this market, software products spending will show the greatest growth rate, doubling over the forecast period.

EXHIBIT IV-11



DLA's contracting for IS products and services will provide opportunities for vendors in a variety of disciplines, especially in the latter years of the forecast period. INPUT believes that vendors will need to employ aggressive marketing tactics to establish a DLA presence and compete effectively for these opportunities.



Major Information Systems Acquisition Plans

The major impetus behind DLA's modernization efforts has been the driving need for the capability to share data within DLA, between DLA and its DoD customers, and between DLA and private industry. The agency continues to redesign existing applications along functional rather than organizational lines. Systems are organized into interoperable solutions within the agency and provide for communications with the military services, industry, GSA, and other federal agencies. Adherence to DoD, EDI, and DLA standards that allow for interoperability are critical to agency redesign and development efforts to meet user demands.

Employing this approach, DLA is proceeding with modernization enhancements in small phased segments. It is building subject area data bases with interoperable AISs, in an environment that will provide the best architecture to meet functional needs.

A

Recent Systems Integration Initiatives

When viewed from the larger, agencywide perspective, DLA has been modernizing its systems for the past ten years. DLA originally envisioned the Logistics Systems Modernization Plan (LSMP), to carry the agency's data processing function into the 21st century. Although viewed by vendors as one systems integration initiative, LSMP was intended to be implemented in phases. DLA cancelled the LSMP and began viewing all projects as enhancements to existing AISs, rather than LSMP being a single initiative. All projects have, in fact, become systems integration programs, regardless of their size, because of DLA's and DoD's requirements for interoperability.

Systems integration projects mentioned by HQ respondents during INPUT's interviewing process in 1989 are listed in Exhibit V-1.

EXHIBIT V-1

**DLA Systems Integration
Projects that Have Aided
Mission Objectives**

- SAMMS I3
- MOCAS
- DISMS
- DLIS

Note: 78% of HQ respondents indicated SI projects aided in completion of DLA's mission.

SAMMS—the Standard Automated Materiel Management System—had been a batch system processing hardware, medical, and clothing and textiles (C&T) commodities. Under the SAMMS I3 (SAMMS Immediate Improvement Initiative) project, DLA was developing a data base computer platform and an on-line processing system intended to standardize shared data across all subsystems of supply operations. The prototype system, developed in 1989, was scheduled to be operational in one of the five supply centers during 1990. Expansion to other supply centers was to follow shortly. National Capitol Systems, Inc. (NCSI) won the integration contract for SAMMS I3. However, the contract was terminated in December 1990. SAMMS now falls under the CIM initiative managed by the Defense Information Systems Agency (DISA). CIM is currently downsizing and rescoping SAMMS.

Cataloging Tools On-line (CTOL) is another procurement under the SAMMS initiative recently awarded to Oracle. The contractor is supplying minicomputers and optical storage devices to support Item Identification (II) for National Stock Numbers (NSNs), and item supply request processing at DLA supply centers. Minicomputers and optical storage devices will automate DLA supply centers, DLSC, and DIPEC. SAMMS efficiency will be improved by automating data entry, management and audit reports. DLA recently augmented the ADPE architecture for SAMMS and MOCAS by acquiring Gould UNIX-based minicomputers through the DMINS (Distributed Minicomputer Systems) contract awarded to Falcon. The purchase of additional midsize systems will further facilitate the agency's decentralization efforts.

MOCAS—the Mechanization of Contract Administration Services—was initiated in 1988 to process the contract portion of procurements. Major enhancements are not planned for this system, but the agency will expand accessibility to the system to more local users and will continue to acquire additional workstations to support this effort. Anticipated mission changes mandated by DMRDs may also drive the need to expand MOCAS hardware requirements as shown by the new DCMC.

DISMS—the Defense Integrated Subsistence Management System—is a computer-based supply system for managing perishable and semiperishable commodities worldwide for troop consumption and resale in commissaries. DISMS integrates with contract administration AISs across all DCASRs.

The Defense Logistics Information System (DLIS)—is physically located at DLSC, Battle Creek, MI. It is an AIS that supports the NSN and the Federal Catalog System, functioning as a central repository for data on all supply items. Grumman won the contract in December 1989 to modernize DIDS hardware and software. DIDS was recently renamed the Defense Logistics Information System (DLIS). FEDLOG, a new acquisition involving CD ROM technology to support the Federal Catalog System, had been delayed as a result of protests. The protests were withdrawn earlier this year, and the contract was recently awarded to Optical Publishing. The Government Printing Office (GPO) is acting as the contracting authority for the CD ROM-based parts catalog and will handle the distribution of the finished product.

B

Initiatives, FY 1992-FY 1996

The one major initiative DLA has scheduled during the 1992-1996 timeframe is the DAAS/DARP Logistics Information Processing System (LIPS). Recent budget cuts, and primarily the impact of the DMRDs/CIM plans, are impeding DLA from announcing further initiatives at this time.

The Defense Automatic Addressing System (DAAS) operated in a batch mode, routing requisitions for supply items to supply sources. DLA has been incrementally modernizing the DAAS to function as a real-time, random access, multiprocessing system. The final DAAS ADPE Replacement and Modernization Program (DARP) acquisition, the Logistics Information Processing System (LIPS) is scheduled for contract award during 3QFY 1992. The RFP was released late in FY 1991. An award was made early in 1991 to DEC for the DAASO Network Control System (DNCS) component of DARP. The completed DAAS will be an on-line system accommodating a large volume of transactions, and will immediately route supply item transactions to supply sources.

Although not scheduled, the agency will probably issue an RFP for depot consolidation services during 2QFY 1992. DLA is currently testing a prototype Defense Distribution System based on the DLA Warehouse and Shipping Procedures System (DWASP). The prototype was developed in response to DMRD 902, which directed the consolidation of all defense depots under DLA. A decision as to which information system will be standardized and implemented worldwide is expected early in 1992. DoD hopes to begin to deploy the system by October 1992, and will require a contractor(s) to quickly drop in additional computing resources and services.

Functional deficiencies in DLA systems are outlined in the agency's Conceptual Functional Requirements document issued in 1988, and in the DLA Long-Range IRM Plans for FY 1991-FY 1996. Vendors are urged to closely study these documents to monitor incremental augmentations and services that may be needed from contractors. DLA had hoped to begin, in 1991, a phased effort of major initiatives that would have offered vendors major opportunities at the rate of two or three per year. Unfortunately the CIM initiative hampered DLA's plans.

C

Implications of CIM and Defense Management Review Decisions

The Defense Management Review Decisions (DMRDs) are implemented through the CIM organization. The focus of DMRDs is to conserve overhead operating costs and consolidate mission operations or business functions throughout the DoD. The resulting implications for each DoD agency will be determined by whether an agency will be the recipient or the provider of services.

Within DoD agencies, the how, when and where of IRM operations will change in the following ways:

- Number and locations of processing centers
- Number and types of equipment
- Number and types of systems and applications software
- Facilities space requirements
- Size and location of DASD
- Number and size of telecommunications devices
- Personnel staffing requirements

A list of some of the 36 issued DMRDs that will impact DLA's mission, organization, IRM planning and operations is given in Exhibit V-2.

EXHIBIT V-2

DMRDs Impacting DLA

DMRD Number	Subject
901	Reducing supply system costs
902	Consolidation of supply depots
903	Change clothing and textile policies
910	Consolidation of DoD accounting and finance operations
912	Consolidation and improvement of financial operations
915	Reduce transportation costs
916	Streamlining contract management
924	Consolidate ADP design and operations in DoD
925	Develop standard ADP systems
926	Consolidation of inventory control points
930	USD(A) defense agency DMR proposals
933	Accounting for government furnished material
934	Moving from leased space
935	Material returns for credit
939	CALS support
941	Implementation of EDI in DoD
955	Major budget decision issue
968	Long haul communications
971	DoD financial systems
972	Consolidation of commissary operations

D**DLA AISs Impacted by DMRDs**

This section discusses the associated impact of each DMRD on DLA's major AISs. A list of the impacted AISs is shown in Exhibit V-3.

EXHIBIT V-3**Major DLA AISs/DMRDs Impact**

- | | |
|----------|-------------|
| • APCAPS | • DLIS |
| • BOSS | • DSATS |
| • DAAS | • DDS/DWASP |
| • DAISY | • EMACS |
| • DFAMS | • MOCAS |
| • DISMS | • SAMMS |

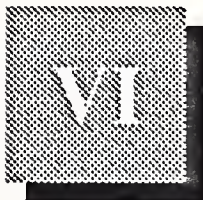
- Automated Payroll, Cost and Personnel System (APCAPS)
 - APCAPS is DLA's payroll, personnel, labor costing, general ledger accounting and manpower reporting system. DMRD 902 directs the consolidation of services-wide Defense Supply Depots under DLA management. APCAPS will require more equipment, and data base expansion to process additional personnel data.
 - If a Defense Accounting Agency is created pursuant to DMRD 912, the payroll and accounting functions of APCAPS will need to be removed from the system. Additional interfaces will also be necessary to allow the remaining functions to operate.
 - The incorporation of contract management functions from other services into DLA's existing contract management organization is currently under way. DMRD 916 directed this consolidation. To support additional functions, DLA's personnel support base must increase and, correspondingly, equipment must be augmented to improve processing capacity.

- DMRD 925 proposes the development of standard ADP systems. If DLA is chosen as the designated agency to provide these services, DLA must upgrade its systems base and the number of processing locations to support other DoD agencies. On the other hand, if DLA obtains these services from another agency, APCAPS will lose some of its functionality and will require redesign efforts to interface with the mandated standard system.
- Base Operations Support System (BOSS)
 - BOSS, a retail management system, automates base supply operations. Additional support from BOSS is required to support the consolidation of Defense Supply Depots under DLA as directed by DMRD 902. Implementation of BOSS throughout the Defense Contract Management Command (DCMC) has already begun in response to DMRD 916.
 - The Defense Automatic Addressing System (DAAS) is a logistics routing system. The DAAS ADP/Replacement Program modernizes the hardware and software components of the system. Although DMRDs do not directly impact this system, DARP enhancements will allow greater data access and processing capabilities to DoD logisticians.
- Defense Reutilization and Marketing Automated Information System (DAISY)
 - Automating the process of reutilization and disposal of excess military property in support of the Defense Reutilization and Marketing Service is currently under development within DAISY. DMRD 930L confirms DAISY's IRM mission; it does not change its scope.
- Defense Fuel Automated Management System (DFAMS)
 - DFAMS automates the management, sale and distribution of petroleum products worldwide for the federal government and military agencies. DMRD 910 consolidated some DFAMS functions into the Defense Finance and Accounting Service (DFAS). DFAS has taken over the bill payment function from DFAMS.
- Defense Industrial Plant Equipment Center (DIPEC) System
 - Automated support of industrial plant equipment (IPE) to all DoD and to other government agencies is provided through DIPEC. To date, DMRDs have not impacted DIPEC's modernization plans.

- Defense Integrated Subsistence Management System (DISMS)
 - DISMS is under development to automate the wholesale food management functions of over 1,500 activities worldwide. Many DMRDs impact DISMS. DMRD 901 changes the way some of the business practices of DISMS are administered. Moving the billing functions of DISMS to the DFAS in response to DMRD 910 will require modifications to DISMS.
 - DMRD 915 is directed at reducing transportation costs. It will force the modification of the Transportation Management System (TRAMS) at subsistence offices worldwide.
 - The consolidation of ADP design and operations within the DoD, addressed by DMRD 924, instructs DLA to consolidate its subsistence ADP operations with other collocated activities within the DoD.
 - Under DMRD 925, DLA's DISMS has become the designated system to process troop issue subsistence functions across all military services. An increased workload caused by DMRD 925, and smaller, more frequent purchases translate into the need for additional processing power for DISMS.
 - Pursuant to DMRD 933, an accounting system is under development for the subsistence commodity.
- Defense Logistics Information System (DLIS)—formerly the Defense Integrated Data System (DIDS)
 - DLIS is a mainframe system managing the National Stock Number (NSN) data base located at the Defense Logistics Services Center (DLSC) in Battle Creek, Michigan. At this time a DMRD regarding DLSC is under development.
- DLA Standard Automated Transportation Management System (DSATS)
 - Uniform materiel transportation data and traffic management functions are provided by DSATS to the DLA's Defense Contract Management Organizations (DCMDs and DCMAOs), depots, DLA supply centers, and the Defense Subsistence Office. In response to DMRD 901, additional algorithms need to be developed. DSAT applications will require modifications as required by DMRD 902 and 915.
 - In conjunction with DMRD 902, 924 and 925, DSATS has become the designated DoD standard transportation system, and encompasses all ADP design and operations. DSATS workload will increase, causing the need for increased processing capability through hardware or software modifications.

- Defense Distribution System (DDS); DLA Warehouse and Shipping Procedures (DWASP) System (DDS/DWASP)
 - The concept of modernizing DoD wholesale depot systems began in the 1970s. However, it did not materialize until DMRD 902 directed depot consolidation, and appointed DLA as the executive agent. The first consolidation prototype, located in the San Francisco Bay Area, is based on DWASP. It incorporates functions from the Naval Supply Centers at Oakland, Tracy, and Sharpe, and from the Sacramento AF Logistics Command. DWASP is a migrating system and consequently has been renamed the Defense Distribution System (DDS). It interfaces with the other services' systems. As a CIM initiative, service depots worldwide will be transferred to DLA for consolidation of operations. DDS/DWASP will require interface modifications and enhancements as transfers of operational responsibility are made to DLA.
 - DDS/DWASP will respond to DMRD 915 by reducing transportation costs when Increment VI is put into effect.
 - CIM will select DDS/DWASP, the original DWASP or another information system as the standard system in early 1992. Regardless of which system is chosen, rapid responses by contractors will be necessary to implement a worldwide distribution system by October 1992. The system must comply with DMRDs 924 and 925, and consolidate ADP design and operations of defense distribution systems.
- Equipment Management and Control System (EMACS)
 - EMACS is an on-line management tool administering DLA operations equipment for the DLA Primary Level Field Activities (PLFAs), the Reutilization and Marketing Regions, and Headquarters. DMRD 902, Consolidation of Defense Depots, is expected to affect EMACS. However, the extent to which it will do so is unknown at this time.
- Mechanization of Contract Administration Services (MOCAS)
 - MOCAS has been a fully operational system automating the post-award administration of approximately 500,000 DoD and other federal agency contracts. If MOCAS is selected by the Defense Finance and Account Service (DFAS) as the payment system for DoD agencies, system enhancements will be needed to include contract payment and reporting functions, and to reduce accounting stations (DMRD 912).

- DMRD 916 mandated the streamlining and consolidation of all military services contract management functions under DLA. The migration of other services' acquisition management systems into MOCAS has already occurred. Compliance with DMRD 916 requires software modifications to MOCAS that enable reporting functions to the DCMC. MOCAS will also need additional hardware capacity and extension of on-line services as it becomes the standard ADP system (DMRD 925) for contract management within the DoD.
- Standard Automated Materiel Management System (SAMMS)
 - The SAMMS AIS manages wholesale inventories of all commodities other than fuel and subsistence. All SAMMS program management responsibilities have been transferred to the Center for Information Management within DISA. SAMMS will be rescoped and downsized in accordance with DMRDs 901, 912, 925, 926, 930, 933, and 939. A recently awarded contract for the SAMMS I3 initiative was terminated in December 1990.



Acquisition Plans and Procedures

This data presented in this chapter is based on interviews conducted for the 1989 edition of this report.

A

Use of Information Services Vendors

DLA is using information systems and services vendors as a result of its continuing emphasis on increasing and modernizing information processing within the agency. Contractors can provide technical experience and expertise that is often not available within the agency. Exhibit VI-1 lists the rankings given by both HQ policy-level and field respondents for information systems and services use within the agency.

EXHIBIT VI-1

Agency Ranking of Information Systems and Services Used Most at DLA

Information Systems & Services Categories	Rank*		
	Policy Staff	Field Staff	
		FY88	Future
Hardware	1	2	2
Professional Services	2	6	5
Software Products	3	1	1
Processing Services	4	5	7
Network Services	5	2	4
Systems Integration	6	4	3
Turnkey Systems	7	7	5

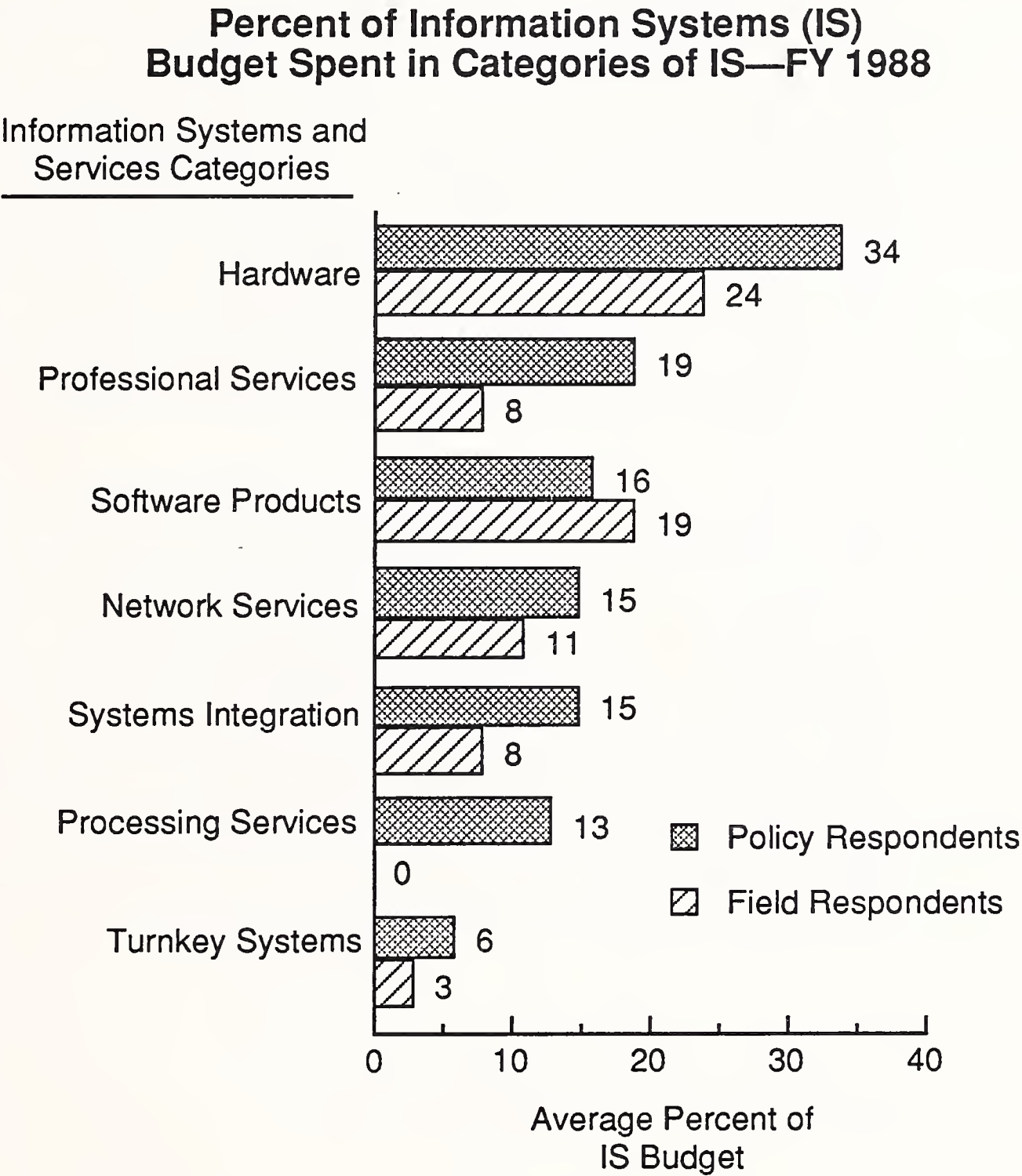
*Rank based on frequency of mention.

The difference in rankings between the groups of respondents reflected their respective involvement in ADP/T acquisitions to automate agency functions. Policy-level respondents ranked hardware, professional services, and software products in corresponding 1, 2, 3 order. This group was involved in overall DLA information systems planning and life cycle management of AISs. As explained in the next paragraph, field respondents placed more emphasis on software products, network services, hardware, and systems integration. If respondents were interviewed in 1991, network services would probably rank second after software.

Although field respondents were primarily OTIS Directors from Primary Level Field Activities (PLFAs), their close involvement with their functional user organizations reflects their prioritizing of systems and services that were used in FY 1988 and those that were planned. OTIS Directors have responsibility for management, installation, conversion, training, and operation of ADP facilities at their PLFAs. Field OTIS Directors must ensure that ADP is accomplished for their functional groups and have little need for professional services contractors, as HQ planners do.

The perceived percent of information systems budget (see Exhibit VI-2) spent within each category of systems and services during FY 1988 has similarities to the rankings given by both HQ and field respondents in Exhibit VI-1. The policy sample indicated the largest percentages of budget were spent for hardware, professional services, and software. Field respondents confirmed that acquisitions for hardware, software, and network services had the highest priorities in their FY 1988 budgets.

EXHIBIT VI-2



Note: Averages do not add to 100% because they are averages.

B**Changes in Contracted Services**

The projected changes in acquisition of information systems and services over the period 1990-1991, as viewed by both HQ and field respondents, is reflected in Exhibits VI-3 and VI-4. Again, the percentages of responses of both groups reflect the nature of their functional responsibilities within the DLA organization. In general, larger percentages of policy-level respondents projected increases in all categories of services, as expected because of their oversight and information systems planning roles. Fewer field respondents anticipated increases in information services, as indicative of their more operational/functional responsibilities. Fewer respondents in both groups forecasted increases for contracted processing services over the next five years. This will continue to be a low market area for DLA because most information processing is accomplished in-house by DLA personnel.

The average increases predicted by HQ personnel were closer to INPUT's assessment of future opportunities for vendors in each service category in the 1989 version of this report. INPUT expected only modest increases of approximately 1% for acquisitions for professional services, processing services, and turnkey systems by the agency. Software products, systems integration and hardware acquisitions were anticipated to experience slightly higher increases ranging from 5%-10%. The network services area was expected to grow by approximately 20%, based on agency projections to expand information processing to end users and connect with suppliers, customers, and other federal agencies. DAASO's DNCS procurement and DLSC's DIDS procurement will strengthen DLA's ability to provide enhanced network services. DLA expects network services needs to expand significantly during 1992-1993.

EXHIBIT VI-3

**Projected Changes in Information Systems
Acquisitions by Service Category—
Policy Respondents
FY 1990 - FY 1994**

Service Category	Percent			
	Respondents Expecting Increase	Average Increase Predicted	Respondents Expecting Decrease	Average Decrease Predicted
Professional Services	80	7	-	-
Software Products	60	16	10	N/A
Processing Services	40	6	30	10
Systems Integration	70	12	10	N/A
Network Services	50	15	10	N/A
Turnkey Systems	60	6	20	10
Hardware	70	12	-	-

Note: Based on total number of survey respondents.
N/A = not available.
Rows will not add to 100%; read column headings.

EXHIBIT VI-4

**Projected Changes in Information Systems
Acquisitions by Service Category—
Field Respondents
FY 1990 - FY 1994**

Service Category	Percent			
	Respondents Expecting Increase	Average Increase Predicted	Respondents Expecting Decrease	Average Decrease Predicted
Professional Services	43	55	7	N/A
Software Products	64	31	-	-
Processing Services	21	N/A	7	N/A
Systems Integration	64	43	-	-
Network Services	64	13	-	-
Turnkey Systems	43	5	-	-
Hardware	57	38	7	N/A

Note: Based on total number of survey respondents.
N/A = not available.
Rows will not add to 100%; read column headings.

C

Application Areas

Agency respondents were asked about the types of applications the agency contracted to vendors during the period 1986-1989, and the types they hoped to contract through FY 1994. As Exhibit VI-5 summarizes, DLA had used, and planned to use, vendor services for a broad range of applications areas. The categories of applications that require central management and control, such as human resources/payroll and accounting, were

mentioned appropriately by the group responsible for the development of central agencywide applications—the HQ policy-level respondents. The only new application that policy-level respondents foresaw being contracted in future years was the human resources/payroll area.

As DLA enters FY 1992, APCAPS is expanding into civil agencies. It has not been determined if DLA's APCAPS will become the DoD-wide payroll and accounting system chosen by CIM planners. Some development work and enhanced systems capability may be needed for the system from contractors in the near future.

EXHIBIT VI-5

Applications Contracted to Vendors

Application Types	Past Contracted FY 1986 - FY 1989		Planned to Contract through FY 1994	
	Policy Respondents	Field Respondents	Policy Respondents	Field Respondents
Information Analysis	X	X	X	X
Human Resources/ Payroll			X	
Word Processing	X	X	X	X
Electronic Mail	X	X	X	X
Electronic Publishing	X	X	X	X
Graphics	X	X	X	X
Logistics/Distribution	X	X	X	X
Accounting	X		X	
Management Systems	X	X	X	X
Scientific/Engineering	X	X	X	X
Project Management	X	X	X	X

There appear to be few opportunities for vendors to provide ongoing support services for completed services contracts at DLA. Agency respondents were asked whether DLA usually transfers continued support in-house or leaves support with contractors when a commercial services contract is completed. As depicted in Exhibit VI-6, the majority of systems maintenance or enhancement functions had been performed by DLA in-house staff at DSAC. It is apparent from the responses to this question that incumbent contractors should leverage their presence to pursue new opportunities, rather than expanding their support of old ones.

EXHIBIT VI-6

**Performance of Continued Support
for Completed Commercial
Services Contracts**

Performed By	Percent of Respondents
In-house staff	80
Contractor provided	0
Varies/mix	20

DLA's modernization efforts that supported departmental/end-user computing agencywide are reflected in the various hardware classes that were employed to run agency applications. Exhibit VI -7 illustrates that all application types were running in a three-tier architecture environment. Applications such as human resources/payroll, logistics/distribution, accounting, and scientific and engineering were mentioned more frequently by respondents as associated with mainframe operations. Applications that tend to be used at higher frequency levels by end users—electronic publishing, graphics, and project management—were cited by more respondents as running on smaller classes of machines.

EXHIBIT VI-7

Hardware Classes Employed for DLA Applications			
Application Types	Percent of Policy Respondents Indicating Hardware Classes Use*		
	Mainframe	Midsize	Micro
Information Analysis	37	41	23
Human Resources/ Payroll	54	33	13
Word Processing	14	53	33
Electronic Mail	16	58	26
Electronic Publishing	9	36	55
Graphics	15	39	46
Logistics/Distribution	47	32	21
Accounting	45	35	20
Management Systems	37	32	32
Scientific/Engineering	50	33	17
Project Management	11	50	39

*Rows may not add to 100% due to rounding.

D

Selection Criteria

The rankings by DLA respondents as to which criteria were the most important in the selection of an information systems and services contractor are listed in Exhibit VI-8. The proposed “functionality” by the contractor of a system or services solution was the primary criterion for selection, according to agency respondents. In previous INPUT studies of

the federal market, agencies have traditionally never failed to identify the "technical solution" as their primary contractor selection criterion. DLA respondents have differentiated the functionality of a solution from its technical components, which may or may not provide the "functionality" sought by the agency. The proposed technical solution is a subset of the functional capabilities of a proposal.

EXHIBIT VI-8

Relative Ranking of Criteria Used in Selection of Information Systems and Services Contractors

Selection Criteria	Agency Ranking*
Functionality	1
Life cycle cost	2
Contract type	3
Technical solution	4
Risk containment procedures	5
Initial cost	6

*Based on average rank score by respondents.

As with most agencies, DLA respondents selected life-cycle cost as the second most important criterion because of budgetary conflicts encountered on the way to project authorization and overall funding problems. In many cases, agency respondents put functionality first and cost second, only to have this ranking reversed by the contracting officer. Cost factors remain critical to DLA as the defense budget continues to shrink.

E

Contract Types

Contracting services required by DLA HQ and DLA field activities for ADP/T resources reside in DLA-Z's DACO organization. Contracting policy and guidance are provided by the DLA-P organization, also located at HQ. Agency HQ policy respondents indicated a majority preference for

fixed-price contracts for all types of vendor-provided systems and services with only one exception. Fixed-labor contracts were the preferred contracting vehicle for acquiring network services, as seen in Exhibit VI-9. Overall, fixed-price contracts continue to prevail at DLA.

EXHIBIT VI-9

**Policy Respondents' Preferences for
Information Systems and Services
Contract Type**

Service Category	Contract Type Preference Percent of Respondents			
	Cost Plus	Fixed Price	Fixed Labor	Mix
Professional Services	-	71	14	14
Software Products	-	86	14	-
Processing Services	20	40	20	20
Systems Integration	14	43	14	29
Network Services	-	20	60	20
Turnkey Systems	-	57	29	14
Hardware	-	57	29	14

Note: Rows may not add to 100% due to rounding.

Many of the HQ respondents were staff members in the Z and P organizations. They were aware that systems or services requirements should dictate contract type, even though government agencies generally prefer fixed-price contracting because it places primary responsibility for a project on the contractor.

Field-level respondents showed a stronger preference for fixed-price contracts for all types of systems and services than HQ personnel, perhaps as a result of their functions as COTRs and CORs for field-driven initiatives (see Exhibit VI-10).

EXHIBIT VI-10

Field Respondents' Preferences for Information Systems and Services Contract Type

Service Category	Contract Type Preference Percent of Respondents			
	Cost Plus	Fixed Price	Fixed Labor	Mix
Professional Services	-	67	11	22
Software Products	-	100	-	-
Processing Services	-	100	-	-
Systems Integration	11	67	-	22
Network Services	-	88	-	13
Turnkey Systems	-	100	-	-
Hardware	20	60	-	20

Note: Rows may not add to 100% due to rounding.

F

Target Environments

Field personnel were asked what type of hardware environments were targeted for DLA information systems through FY 1994. Their responses are listed in Exhibit VI-11. All respondents specified a multiple architecture approach. More than 60% indicated that DLA will use a three-tier approach for future information systems. The survey responses manifest the agency’s modernization direction for information processing: connectivity of information and the sharing of data among multiple systems and users. DLA’s hardware environment for FY 1992 emphasizes connectivity and interoperability.

EXHIBIT VI-11

Target Hardware Environments	
Hardware Type	Percent of Respondents
Mainframe	92
Midsized	85
Micro	77

Note: 62% indicated a combination of all three hardware types.

G

Methods for Acquiring Future Services/Systems

The mounting demands for modernization of agency systems will force DLA to meet its future information systems and services requirements through an array of acquisition methods, as shown in Exhibit VI-12. According to those surveyed, “the purchase of integrated systems or solutions” will be the primary method of acquisition. Buying hardware separately without in-house or outside integration services was the next most frequently cited method, indicating that a large number of DLA hardware acquisitions will only be upgrades or expansions of existing systems. Agency respondents also planned to purchase turnkey systems and hardware components along with an integrator contractor to meet their systems’ demands over the next few years. Other acquisition methods were seldom mentioned. Respondents hoped to acquire integrated systems from contractors. However, DLA relies on in-house integration efforts and acquires most equipment as hardware upgrades.

EXHIBIT VI-12

**DLA Acquisition Methods for
Information Systems
FY 1990 - FY 1994**

Method	Percent of Field Responses*
Buy hardware	39
Buy integrated systems	54
Buy turnkey systems	23
Buy hardware separately and use an SI contractor	23
Buy hardware separately and do integration in-house	8
Buy operational support with hardware	8
Move applications to other agency centers	8
Move applications to COCO facilities	8

*Does not add to 100% due to multiple responses.

The average number of systems that field respondents expected their groups will either add, replace, or upgrade over the five-year period was 4.2, as shown in Exhibit VI-13. This figure represents a healthy amount of opportunities for vendors that currently compete, or desire to compete, in the DLA information systems market. Systems opportunities will range in complexity and size based on whether they will be locally driven and deployed or designed to support agencywide missions. Small purchases that support end-user connectivity and result in productivity gains are initiated from the information centers at the PLFAs, and do not require DLA-Z approval.

EXHIBIT VI-13

Field Plans to Implement Information Systems Through FY 1994	
Percent of Respondents	Average Number of Systems
100	4.2

H

Factors/Trends Impacting Acquisitions

Acquisitions made by federal agencies are affected by pressures that may be agency inherent, or are unique to the federal market. DLA respondents, in the earlier study, considered their information systems plans affected by three types of pressures, listed in Exhibit VI-14. The issue of reduced program funding as a result of the Gramm-Rudman-Hollings Act and the federal government’s deficit was the chief factor playing a role in DLA’s acquisitions of information systems and services as it does in other federal agencies. Generally, funding constraints reduce the number of procurements and lengthen procurement schedules of the surviving programs. DLA, however, will accomplish some information systems modernization via modular incremental contracts viewed as operational enhancements, and thereby eliminate the massive annual funding required to support a large-scale effort.

EXHIBIT VI-14

Perceived External Pressures Affecting Information Systems Plans
<ul style="list-style-type: none">• Funding issues• Acquisition procedures• OSD requirements

Federal acquisition procedures also play a part in complicating and lengthening the process of acquiring contractor equipment and services. In the past, DLA has partially circumvented this problem by frequently using 8(a) contractors. DLA, unlike other government agencies, reports directly to OSD. Respondents perceived this additional reporting structure as placing additional pressures and requirements on the agency. OSD's requirements, particularly the CIM initiative, have slowed or curtailed major procurements planned by DLA.

Agency respondents cited many industry trends and technological improvements impacting DLA's acquisition plans for information systems over the next five years, some of which are listed in Exhibit VI-15. The availability of smaller but more powerful hardware has allowed DLA to evolve its systems modernization efforts to include end-user computing. The evolution of departmental processing and the advancements in DBMS technology have allowed the agency to connect users in network configurations that permit the sharing of data across functional responsibilities within the agency. The automation of previously performed manual tasks, in the areas of order processing and inventory control, produces a much more efficient DLA agency that supports the Armed Forces' need for goods and materials. Artificial intelligence and optical technology products also streamline daily information processing operations. DLA utilizes EDI to connect with suppliers via the Electronic Supplier/Customer Network (ESCN). It permits procurement by computer. Benefits to the agency include speeding the transaction cycle, reducing inventoried items, and improving cash flow. The network promotes greater efficiency with contractors for order fulfillment operations. Agency compliance with industry and government standards will assure intersystem compatibility, resulting in agencywide shared data access.

DLA is also heavily involved in CALS development and implementation. CALS creates technical data standardization for automation of weapons systems' support from design to disposal.

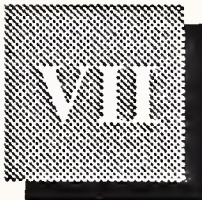
"Total Quality Management" (TQM) is impacting how DLA structures its in-house and contractor-provided systems. The "do it right the first time" approach affects the way DLA deals with industry vendors and what is expected from them in performance. DLA's own DAISRC approval/monitoring process for information technology acquisitions is also in part a response to the federal government's emphasis on TQM.

Lastly, agency respondents believed that the increasing trend of "corporate mergers" among industry vendors does have an effect on ADP/T resources acquisitions. DLA, not unlike other agencies, cannot help but to cautiously select contractors whose longevity in the marketplace is expected to continue.

EXHIBIT VI-15

Industry Trends and Technology Factors Impacting DLA's IS Plans FY 1990 - FY 1994

- Smaller powerful computing technology
- DBMS technology
- Artificial intelligence
- EDI
- Optical technology
- Standards
- Total quality management
- Corporate mergers



Vendor Views

The vendor views presented in this chapter are based on research conducted for the 1989 version of this report.

A

Products and Services

Current and planned information systems and services provided to DLA by vendor respondents cover a wide range; the principal categories are listed in Exhibit VII-1.

EXHIBIT VII-1

Vendor Ranking of Current and Planned Information Systems and Services Provided to DLA

Service Category	Rank*	
	FY 1988	Planned Through FY 1994
Hardware	3	5
Professional Services	1	1
Software Products	1	4
Processing Services	-	7
Network Services	3	6
Systems Integration	5	2
Turnkey Systems	6	3
Other	6	8

*Rank based on frequency of mention by respondents.

Each category was ranked on the basis of its frequency of mention by vendor respondents. The largest share of vendors provided professional services and software products under their current contracts with the agency during FY 1988. Vendors indicated some differences, however, in the types of services they anticipated providing to the agency through FY 1994. They expected to provide less hardware, software, and network services and more systems integration services and turnkey systems than previously. Vendor projections were similar to those of agency respondents (see Exhibit VI-1) with the exceptions of hardware and software. If interviewed in 1991, vendors would undoubtedly rank network services higher.

Vendors' views on the most attractive opportunities that could result in contracts at DLA for their systems and services are profiled in Exhibit VII-2 and are similar to their projections presented in Exhibit VII-1. One cannot assume that industry respondents equated planned services and most attractive opportunities as having the same meaning. Planned services actually indicated current contractual obligations from the agency. Based on their responses, vendors believe there are many more opportunities for contracted network services at DLA than are currently in place. Systems integration projects head the list for future opportunities, whereas previously they ranked in second place.

EXHIBIT VII-2

**Vendor Ranking of Most
Attractive Opportunities for
Information Systems and
Services at DLA**

Systems/ Services	Rank*
Systems Integration	1
Professional Services	2
Network Services	3
Turnkey Systems	3
Software Products	5
Processing Services	6
Hardware	6

*Rank based on frequency of mention by respondents.

The vendors' perceptions of opportunity areas are at slight odds with INPUT's predictions. There will be significantly more network services contracts let by the agency than systems integration contracts. This trend will continue through 1996.

In order to maximize their agency exposure and revenue dollars, contractors often position themselves as teaming partners or subcontractors to another vendor if they are unable to "prime" bid a procurement. Exhibit VII-3 shows that the vendors in this study have often found it expedient to participate with other vendors as subcontractors or teaming partners to win DLA contracts. Vendors do not usually team or subcontract on contracts that require a single type of solution or specific expertise, such as processing services, or turnkey systems providers.

EXHIBIT VII-3

**Vendor Participation with
Other Contractors in DLA Contracts**

Systems/ Services	Percent of Respondents Providing Services as a Subcontractor/Teaming Partner
Professional Services	63
Software Products	63
Processing Services	13
Systems Integration	38
Network Services	50
Turnkey Systems	13
Hardware	50

The majority of industry respondents surveyed were not the recipients of any DLA contracts for support services that were previously performed by in-house agency personnel, as shown in Exhibit VII-4. Only 10% had ever won these types of contracts from the agency. For the most part, DSAC continues to perform DLA's systems support services and very rarely transfers this responsibility to contractors, regardless of whether the systems have been developed internally or with contractor assistance.

EXHIBIT VII-4

**Vendor Contracting for DLA
Support Services Previously
Performed by Agency**

Received Contract for Support Services?	Percent of Respondents
Yes	10
No	90

B**Changes in Contracted Services**

Seventy percent of the industry respondents expected changes in the amount of information systems and services their companies would provide to DLA through FY 1994. Of this group of contractors, 71% expected large increases in both systems integration and professional services contracts, with average percent increases of 85% and 100%, respectively (see Exhibit VII-5). The average percent increase was derived from the respondents' expected percentage growth in each service category for their companies. Forty-three percent also projected increases of 75% for network services and turnkey systems. Industry and agency HQ respondents (see Exhibit VI-3) appear to agree on which categories will grow. They disagree on the percentage increases for each category of services. Vendors' responses represent their companies' expected increases in contracting for each category of services, not changes in overall agency opportunities. Agency personnel were more conservative in their growth estimates for acquisitions of systems and services.

EXHIBIT VII-5

**Vendor-Expected Changes in Contracting for Information Systems and Services at DLA
FY 1990 - FY 1994**

Service Category	Percent*			
	Expecting Increase	Average Increase	Expecting Decrease	Average Decrease
Professional Services	71	100	-	-
Software Products	29	N/A	-	-
Processing Services	22	N/A	-	-
Systems Integration	71	85	14	N/A
Network Services	43	75	-	-
Turnkey Systems	43	75	-	-
Hardware	21	83	-	-

N/A = Not Available.
 *Based on the total number of respondents.
 Note: 70% anticipated a change in the amount of IS their companies would provide to DLA through FY1994.

C
Application Areas

The vendors were asked about the types of applications DLA had contracted in the past and what types they expected the agency to contract out over the next five years. Their responses are ranked, and the planned applications are contrasted with past applications in Exhibit VII-6. Application areas such as information analysis and logistics/distribution were viewed as the most frequently contracted to vendors, and these are ex-

pected to continue to be over the next five years. Vendors predicted less contracting opportunities than previously let by the agency for human resources/payroll, scientific/engineering, and accounting applications. Applications developed in these areas tend to have long life cycles and are not requested by multiple functional groups. They are usually requirements of one central organization within an agency. Vendors did project that the management systems area will offer significant opportunities for contractor services. Consolidation of defense-wide business functions and information systems driven by DMRDs and the CIM initiative will dampen the number and types of applications developed by contractors for DLA.

EXHIBIT VII-6

Vendor Perceptions of DLA Applications Contracted to Vendors

Application Types	Rank*	
	Past Contracted	Planned to Contract
Scientific/Engineering	1	7
Information Analysis	2	1
Logistics/Distribution	2	1
Human Resources/Payroll	4	11
Word Processing	4	7
Accounting	4	10
Project Management	4	4
Electronic Publishing	8	5
Electronic Mail	9	7
Graphics	9	5
Management Systems	11	1

*Rank based on frequency of mention by respondents.

D**Contract Functionality**

Although the vendors surveyed by INPUT had contracted with DLA for a wide array of information systems and services, fewer than 20% had completed any mission-oriented contracts. These are contracts that are related to the vagaries of supporting the agency's mission of providing logistics support to the military and other entities. Most contracts support administrative applications, such as those listed in Exhibit VII-7. One notable exception is the DMINS contract with Falcon Data Systems, which primarily supports office applications.

EXHIBIT VII-7**Administrative Services
Performed by Contract**

- Financial applications
- Payroll applications
- Acquisition support

The lack of mission-oriented contracts within DLA reflects the agency's tradition of performing these contracts in-house. This tradition contrasts sharply with practices of such agencies as NASA and the DOE, which engage heavily in mission contracting. Based on survey responses, neither agency nor vendor personnel expect significant changes through 1994. In fact, beginning in 1992, most applications that DLA will be responsible for within the DoD will be limited to mission-oriented areas because of CIM/DoD consolidation efforts. Since DLA will continue to perform most development work in-house, few opportunities will exist for contractors in the area of custom software development.

E**Selection Criteria**

Vendors believed more firmly than agency respondents did that DLA is more attuned to cost factors in its evaluation of potential contractors. A comparison of vendor and agency rankings of contractor selection criteria is presented in Exhibit VII-8.

EXHIBIT VII-8

Vendor Perception of the Relative Ranking* of Criteria Used in Selection of IS Contractors

Selection Criteria	Vendor Ranking	Agency Ranking
Life cycle cost	1	2
Initial cost	2	6
Technical solution	3	4
Risk containment procedures	4	5
Contract type	5	3
Functionality	N/A	1

N/A = Not Available.

*Based on average rank score by respondents.

Historically, INPUT has found that both agency and industry respondents in other INPUT studies ranked the proposed technical solution as the number-one selection criterion. Vendors have begun to diverge from this perception as a result of their recent procurement experiences with federal agencies. DLA respondents ranked functionality first and the technical solution fourth. Agency respondents viewed the technical solution as a subset of the overall functionality of a proposed solution for systems and services.

F

Preferred Contract Types

Vendors expected to provide information systems and services to DLA under a variety of contract types, but predicted that fixed-price contracts would dominate for most categories of information services, as presented in Exhibit VII-9.

EXHIBIT VII-9

Vendor Perceptions of Contract Type Preferences for Information Systems and Services

Service Category	Contract Type Preference Percent of Respondents				
	Cost-Plus	Fixed-Price	Fixed-Labor	Award Fee	Mix
Professional Services	21	37	14	7	21
Software Products	-	100	-	-	-
Processing Services	-	100	-	-	-
Systems Integration	7	57	7	-	29
Network Services	10	40	-	-	50
Turnkey Systems	82	-	-	-	18
Hardware	-	90	-	-	10

The majority noted that cost-plus contracting vehicles will be utilized for turnkey systems acquisitions. Although the profit margin for cost-plus contracting is more regulated, vendors generally prefer this type of contracting for delivering turnkey systems because the government assumes more risk. Detailed requirements must be provided to a vendor in order to develop and/or deliver turnkey systems. In contrast, both groups of agency respondents (see Exhibits VI-9 and VI-10) preferred either fixed-price labor-hour, or fixed-price contracting for turnkey systems, clearly indicating a preference for placing all the risks associated with delivering turnkey systems on the contractors.

Acquired network services was the only category in which vendors predicted that a mix of contracts would be employed by DLA. A major portion of the HQ agency respondents indicated a strong preference for fixed-labor contracts for network services solicited from vendors.

In other INPUT studies, vendors usually selected a "mix" of contract types that facilitate flexibility in responding to the requirements of a proposed system or service. It is unclear, however, whether the vendors' overall selection of fixed-price contracting in this study reflects their prediction of what type of contracting vehicle DLA will use for services, or if it indicates the vendor's own preferences for a contract vehicle. If their selection reflects their own preferences, it is as a result of contractors becoming more confident in their contract management skills and believing they can maximize profitability with fixed-price contracting.

G

Factors Affecting DLA Spending

Most vendors surveyed by INPUT did not believe that the Gramm-Rudman-Hollings Act or other federal budget constraints had a significant impact on DLA's acquisition of information systems and services. Exhibit VII-10 ranks their views on the effects of budgetary tightening on DLA acquisitions.

EXHIBIT VII-10

Vendor Views of the Impact of Budget Constraints on DLA Information Systems and Services Acquisitions

Impact	Rank*
Minimal	1
Delays project schedules	2
Procurements downsized	3

*Based on frequency of mention by respondents.

Vendors did not believe that overall information systems projects were cut to any significant degree, only that their schedules were possibly delayed or that the projects were downsized. Vendors would probably express a very different opinion if interviewed in 1991. Also, smaller procurements require less scrutiny by Congress and DoD and correspondingly less funding appropriated in any given fiscal year.

In response to the federal government's mandate that OSI-compatible systems be developed throughout federal agencies, vendors indicated that vendor adherence to POSIX and GOSIP standards were required to provide systems to DLA, as shown in Exhibit VII-11. "Plug in and play" technology will be even more critical to DLA through 1996, as interoperability requirements increase.

EXHIBIT VII-11

**Standards Impacting DLA
Acquisitions of Information
Systems and Services—
Vendor Perceptions**

- POSIX
- GOSIP
- UNIX
- Ada
- CALS
- MVS

Other government and systems standards that affect the types of systems acquired by DLA are Ada, CALS, UNIX, and MVS. The DoD's commitment to Ada as a programming tool will impact DLA as an agency that must comply to DoD directives in the out-years. The agency's compliance with CALS standards will speed logistics support services provided to the military services. DLA's current operating environments employ UNIX and MVS and will continue to do so. Vendors are well aware that DLA will not consider any new systems that are not compatible with the existing environment. Standardized systems that can be accessed agencywide are the driving force behind DLA information systems modernization efforts. Standardized requirements across the DoD are also creating

umbrella contracts for equipment and off-the-shelf software that minimize the number of opportunities for vendors in general, but can mean significant income for the lucky vendor(s) that supply DoD requirements across the services.

Vendors were asked which technology changes or innovations would impact how DLA accomplishes information processing over the next five years. Exhibit VII-12 ranks their views. The improvements in DBMS technology that have given rise to distributed data base processing in network environments was ranked first, and these improvements support DLA decentralization and modernization initiatives. More powerful mainframes will accommodate the large-machine resources necessary to support merging of large data bases at the top level. The increased availability and use of optical technology, such as storage devices and scanners, will streamline day-to-day operations in managing logistics services for DLA's military customers.

EXHIBIT VII-12

Vendor Views of Technology Changes Impacting Information Processing at DLA

Technology Changes	Rank*
Distributed data base/ networking systems	1
Optical technology	2
More powerful mainframes	3

*Based on frequency of mention by respondents.

H

Marketing Differences

Industry respondents were asked what differences they perceived between marketing to DLA versus other federal agencies. Their responses are shown in Exhibit VII-13. Vendors cited several differences that were more problematic with DLA than with other agencies. Often RFPs had

been less than precise in defining systems requirements, implying a lack of understanding by the agency. Explicit SOWs and RFPs are critical to contractors in preparing bid proposals and executing contracts successfully. The agency's internal structure was viewed as not being conducive to organized acquisitions of systems, and as a result the acquisition process tended to be more lengthy than with other agencies. The reorganization of DLA-Z begun in 1988 had alleviated many vendors' concerns. However, the impact of DLA's added mission responsibilities influenced by DMRDs and CIM plans is perplexing vendors as DLA begins FY 1992. Vendors, as well as DLA officials, are confused as to which agency—DLA or DISA—is responsible for new and existing DLA systems.

EXHIBIT VII-13

**Differences in
Marketing to DLA**

Marketing Differences	Rank*
RFP problems/issues	1
Unorganized	2
More political	3
Logistics background required	3
Sensitivity to OSD	5
Slow decision process	5
Magnitude of services contracted	7

*Rank based on frequency of mention by respondents.

Other characteristics of successful marketing to DLA were that vendors should possess a logistics background to functionally understand agency requirements; and the agency is more sensitive to OSD directives than other DoD agencies. The control link between OSD and DLA grows smaller every year.

Additionally, DLA's unique worldwide mission to provide logistics services to all military agencies was viewed as presenting some unique opportunities for vendors. The size and interoperability of systems' requirements demand innovative solutions from contractors desiring to strengthen their market shares at the agency.

I

Suggested Improvements to Products and Services

Vendor respondents were asked what they believe the vendor community should do over the next five years to make products and services more valuable to DLA. Adherence to government and DLA information processing standards was the primary suggestion expressed by vendors, as listed in Exhibit VII-14. Standards adherence is critical to DLA's information processing modernization program into the 21st century. Vendors that offer "integrated solutions" or that can solve systems interoperability problems will have a better chance of winning contracts from the agency.

EXHIBIT VII-14

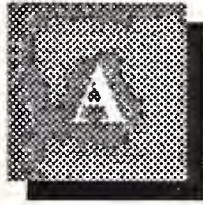
**Suggested Improvements to
Products and Services**

Suggestion	Rank*
Adhere to standards	1
Improve product and vendor performance	2
Provide integrated solutions	3
Market agency aggressively	4

*Rank based on frequency of mention by respondents.

Improvements in product and vendor performance were also cited frequently by the industry respondents. It is critical for vendors to offer products that will perform up to, or surpass, DLA requirements. The agency is searching for avenues that affect productivity gains as human resources diminish while user requirements increase. Agency scrutiny of "how vendors perform their contracts" is becoming an increasingly important criterion in evaluating contractors for successive contracts.

Vendors need to market their products and services more aggressively to both HQ-Z and functional personnel within the agency. Many vendors contacted by INPUT believed that DLA is an untapped market for their companies. By employing more aggressive marketing strategies that educate DLA personnel on products' technical capabilities and that address mission deficiencies, vendors can hope to gain market share within the agency.



Defense Logistics Agency Information Services Market Interview Profiles

A

DLA Agency Interviews

Headquarters Policy Respondents—58% of the interviews were conducted on-site, and 42% were conducted using a combination of mail and telephone research interview methods. The HQ level respondent group was primarily comprised of DLA-Z staff members, but also included officials from the Directorate of Supply Operations (DLA-O), the Directorate of Contracting (DLA-P), and the Directorate of Technical and Logistics Services (DLA-S).

Field-Level Respondents—All interviewees resided in the Office of Telecommunications and Information Systems at DLA Primary Level Field Activities (PLFAs). Respondents were representatives of the following PLFAs:

- Defense Industrial Supply Center
- Defense Depot, Memphis
- Defense Logistics Services Center
- Defense Logistics Agency Systems Automation Center
- Defense Technical Information Center
- DCASR, Boston
- DCASR, Philadelphia
- DCASR, St. Louis

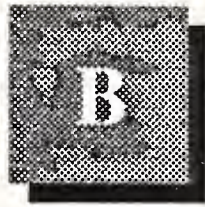
B

Industry Interviews

For this report, INPUT contacted a representative sample of industry vendors that provided information systems and services to DLA during and prior to 1988.

Job classifications of industry respondents included marketing and corporate-level executives.

Contacts with vendor personnel were made by telephone and mail.



Definitions

The definitions in this appendix include hardware, software, services, and telecommunications categories to accommodate the range of information systems and services programs described in this report.

Alternate service mode terminology employed by the federal government in its procurement process is defined along with INPUT's regular terms of reference, as shown in Exhibit B-1.

The federal government's unique, non-technical terminology, associated with applications, documentation, budgets, authorization, and the procurement/acquisition process, is included in Appendix C, Glossary of Federal Acronyms.

A

Overall Definitions and Analytical Framework

Information Services - Computer/telecommunications-related products and services that are oriented toward the development or use of information systems. Information services typically involve one or more of the following:

- Processing of specific applications using vendor-provided systems (called *Processing Services*)
- A combination of hardware, packaged software and associated support services which will meet a specific application processing need (called *Turnkey Systems*)
- Packaged software (called *Software Products*)
- People services that support users in developing and operating their own information systems (called *Professional Services*)
- Bundled combinations of products and services where the vendor assumes responsibility for the development of a custom solution to an information system problem (called *Systems Integration*)

- Services that provide operation and management of all or a significant part of a user's information systems functions under a long-term contract (called *Systems Operations*)
- Services associated with the delivery of information in electronic form—typically network-oriented services such as value-added networks, electronic mail and document interchange, on-line data bases, on-line news and data feeds, videotex, etc. (called *Network Services*)

In general, the market for information services does not involve providing equipment to users. The exception is where the equipment is bundled as part of an overall service offering such as a turnkey system, a systems operations contract, or a systems integration project.

The information services market also excludes pure data transport services (i.e., data or voice communications circuits). However, where information transport is associated with a network-based service (e.g., EDI or VAN services), or cannot be feasibly separated from other bundled services (e.g., some systems operations contracts), the transport costs are included as part of the services market.

The analytical framework of the *Information Services Industry* consists of the following interacting factors: overall and industry-specific business environment (trends, events and issues); technology environment; user information system requirements; size and structure of information services markets; vendors and their products, services and revenues; distribution channels, and competitive issues.

All *Information Services Market* forecasts are estimates of *User Expenditures* for information services. When questions arise about the proper place to count these expenditures, INPUT addresses them from the user's viewpoint: expenditures are categorized according to what users perceive they are buying.

By focusing on user expenditures, INPUT avoids two problems which are related to the distribution channels for various categories of services:

- Double counting, which can occur by estimating total vendor revenues when there is significant reselling within the industry (e.g., software sales to turnkey vendors for repackaging and resale to end users)
- Missed counting, which can occur when sales to end users go through indirect channels such as mail order retailers.

Delivery Modes are defined as specific products and services that satisfy a given user need. While *Market Sectors* specify *who* the buyer is, *Delivery Modes* specify *what* the user is buying.

Of the eight delivery modes defined by INPUT, five are considered primary products or services:

- Processing Services
- Network Services
- Professional Services
- Applications Software Products
- Systems Software Products

The remaining three delivery modes represent combinations of these products and services, bundled together with equipment, management and/or other services.

- Turnkey Systems
- Systems Operations
- Systems Integration

Section B describes the delivery modes and their structure in more detail.

Outsourcing is defined as the contracting of information systems (IS) functions to outside vendors. Outsourcing should be viewed as the opposite of *insourcing*: anything that IS management has considered feasible to do internally (e.g., data center operations, applications development and maintenance, network management, training, etc.) is a potential candidate for outsourcing.

IS has always bought systems software, as it is infeasible for companies to develop it internally. However, all other delivery modes represent functions or products that IS management could choose to perform or develop in-house. Viewed this way, outsourcing is the result of a make-or-buy decision, and the outsourcing market covers any product or service where the vendor must compete against the client firm's own internal resources.

B

Industry Structure and Delivery Modes

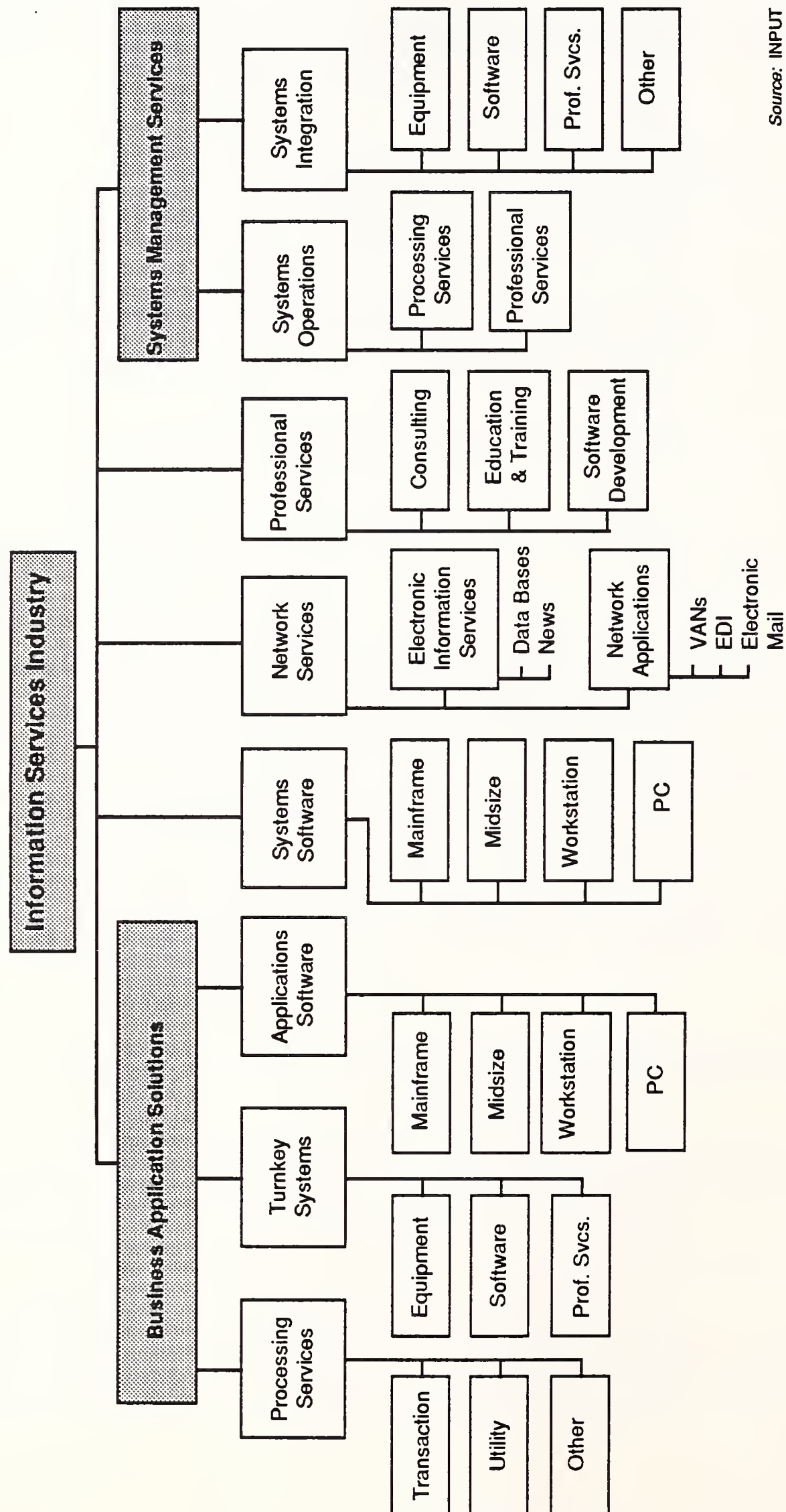
1. Services Categories

Exhibit B-1 presents the structure of the information services industry. Several of the delivery modes can be grouped into higher-level *Service Categories*, based on the kind of problem the user needs to solve. These categories are:

- *Business Application Solutions (BAS)* - prepackaged or standard solutions to common business applications. These applications can be either industry-specific (e.g., mortgage loan processing for a bank), cross-industry (e.g., payroll processing), or generic (e.g., utility time

EXHIBIT B-1

Information Services Industry Structure—1991



Source: INPUT

sharing). In general, BAS services involve minimal customization by the vendor, and allow the user to handle a specific business application without having to develop or acquire a custom system or system resources. The following delivery modes are included under BAS:

- Processing Services
 - Applications Software Products
 - Turnkey Systems
- *Systems Management Services (SMS)* - services which assist users in developing systems or operating/managing the information systems function. Two key elements of SMS are the customization of the service to each individual user and/or project, and the potential for the vendor to assume significant responsibility for management of at least a portion of the user's information systems function. The following delivery modes are included under SMS:
 - Systems Operations
 - Systems Integration

Each of the remaining three delivery modes represent a separate service category:

- Professional Services
- Network Services
- Systems Software Products

Note: These service categories are a new concept introduced in 1990. They are purely an aggregation of lower-level delivery mode data. They do not change the underlying delivery modes or industry structure.

2. Software Products

There are many similarities between the applications and systems software delivery modes. Both involve user purchases of software packages for in-house computer systems. Included are both lease and purchase expenditures, as well as expenditures for work performed by the vendor to implement or maintain the package at the user's site. Vendor-provided training or support in operation and user of the package, if bundled in the software pricing, is also included here.

Expenditures for work performed by organizations other than the package vendor are counted in the category of professional services. Fees for work related to education, consulting, and/or custom modification of software products are counted as professional services, provided such fees are charged separately from the price of the software product itself.

Software products have several subcategories, as indicated below and shown in Exhibit B-2.

- **Systems Software Products**

Systems software products enable the computer/communications system to perform basic machine-oriented or user interface functions. These products include:

- *Systems Control Products* - Software programs that function during application program execution to manage computer system resources and control the execution of the application program. These products include operating systems, emulators, network control, library control, windowing, access control, and spoolers.
- *Operations Management Tools* - Software programs used by operations personnel to manage the computer system and/or network resources and personnel more effectively. Included are performance measurement, job accounting, computer operation scheduling, disk management utilities, and capacity management.
- *Applications Development Tools* - Software programs used to prepare applications for execution by assisting in designing, programming, testing, and related functions. Included are traditional programming languages, 4GLs, data dictionaries, data base management systems, report writers, project control systems, CASE systems, and other development productivity aids. Also included are system utilities (e.g., sorts) which are directly invoked by an applications program.

- **Applications Software Products**

- *Industry-Specific Applications Software Products* - Software products that perform functions related to solving business or organizational needs unique to a specific vertical market and sold to that market only. Examples include demand deposit accounting, MRPII, medical recordkeeping, automobile dealer parts inventory, etc.
- *Cross-Industry Applications Software Products* - Software products that perform a specific function that is applicable to a wide range of industry sectors. Applications include payroll and human resource systems, accounting systems, word processing and graphics systems, spreadsheets, etc.

EXHIBIT B-2

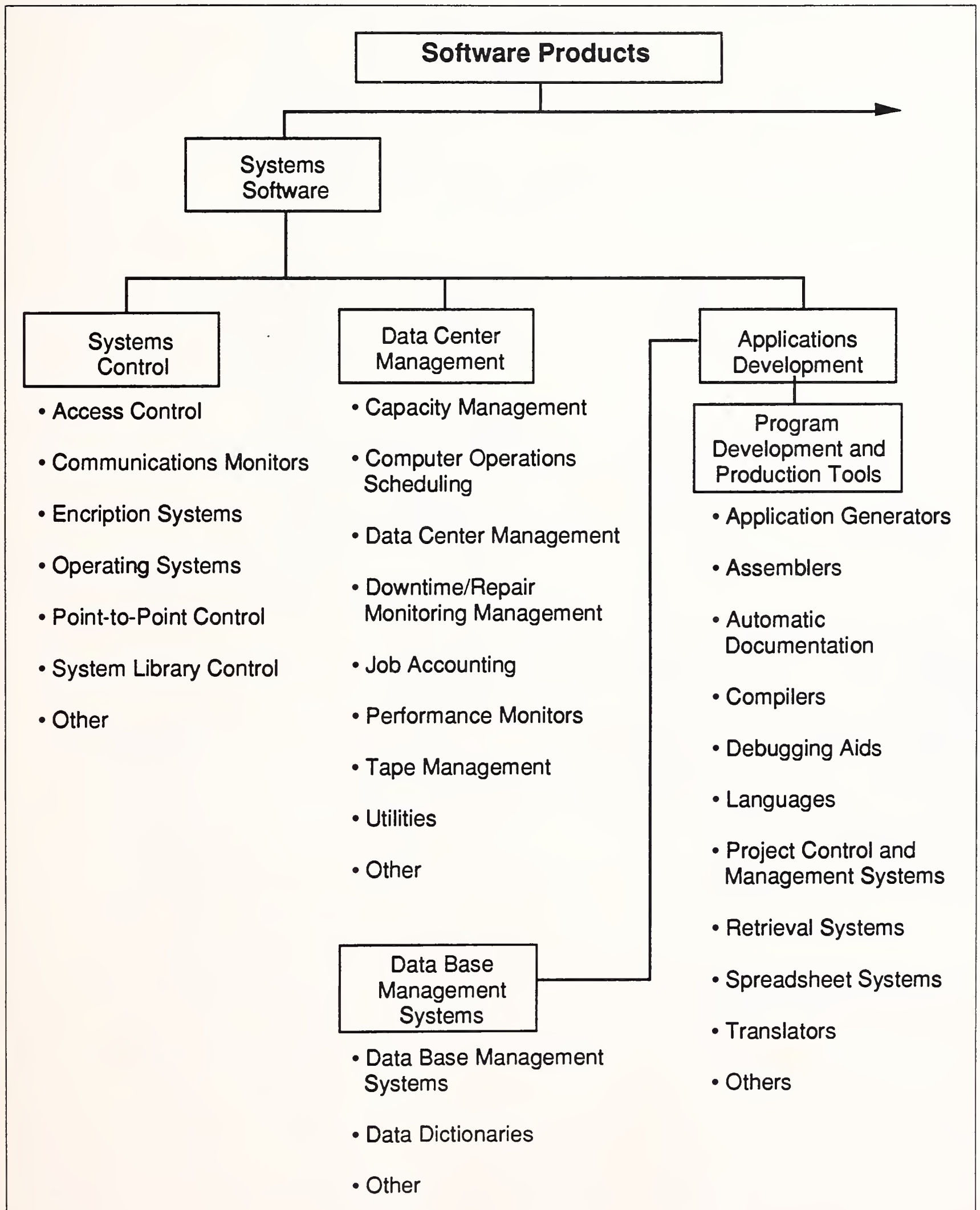
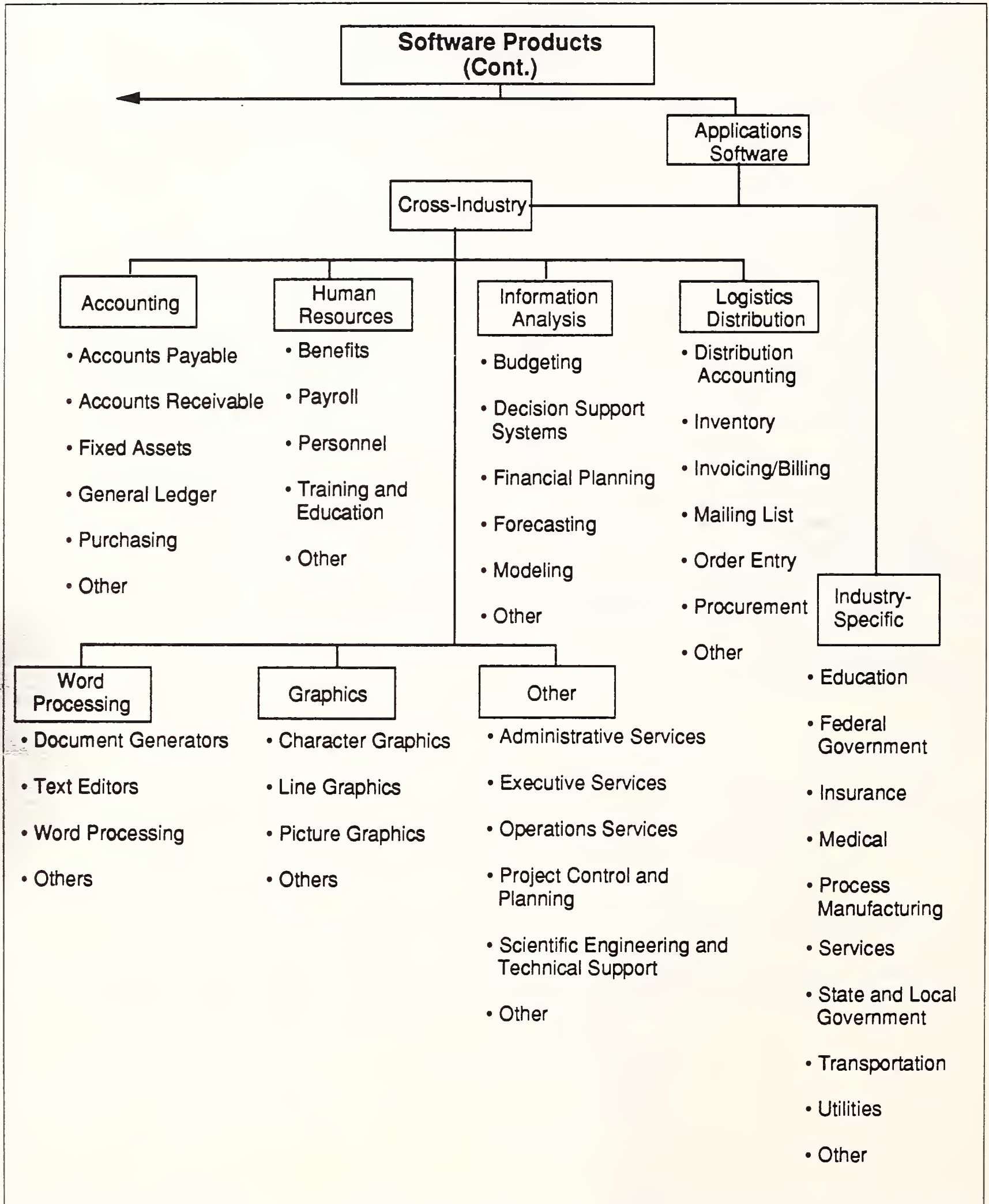


EXHIBIT B-2 (CONT.)



3. Turnkey Systems

A turnkey system is an integration of equipment (CPU, peripherals, etc.), systems software, and packaged or custom application software into a single system developed to meet a specific set of user requirements. Value added by the turnkey system vendor is primarily in the software and support services provided. Most CAD/CAM systems and many small business systems are turnkey systems. Turnkey systems utilize standard computer and do not include specialized hardware such as word processors, cash registers, process control systems, or embedded computer systems for military applications.

Hardware vendors that combine software with their own general-purpose hardware are not classified by INPUT as turnkey vendors. Their software revenues are included in the appropriate software category.

Most turnkey systems are sold through channels known as value-added resellers.

- **Value-Added Reseller (VAR):** A VAR adds value to computer hardware and/or software and then resells it to an end user. The major value added is usually application software for a vertical or cross-industry market, but also includes many of the other components of a turnkey systems solution, such as professional services.

Turnkey systems are divided into two categories:

- *Industry-Specific Systems* - systems that serve a specific function for a given industry sector, such as automobile dealer parts inventory, medical recordkeeping, or discrete manufacturing control systems.
- *Cross-Industry Systems* - systems that provide a specific function that is applicable to a wide range of industry sectors, such as financial planning systems, payroll systems, or personnel management systems.

4. Processing Services

This category includes transaction processing, utility processing, and other processing services.

- *Transaction Processing:* Client uses vendor-provided information systems—including hardware, software and/or data networks—at vendor site or customer site to process transactions and update client data bases. Transactions may be entered in one of four modes:

- *Interactive* - Characterized by the interaction of the users with the system for data entry, transaction processing, problem solving and report preparation: the user is on-line to the programs/files stored on the vendor's system.
 - *Remote Batch* - Where the user transmits batches of transaction data to the vendor's system, allowing the vendor to schedule job execution according to overall client priorities and resource requirements.
 - *Distributed Services* - Where users maintain portions of an application data base and enter or process some transaction data at their own site, while also being connected through communications networks to the vendor's central systems for processing other parts of the application.
 - *Carry-in Batch* - where users physically deliver work to a processing services vendor.
- *Utility Processing*: Vendor provides basic software tools (language compilers, assemblers, DBMSs, graphics packages, mathematical models, scientific library routines, etc.), generic applications programs and/or data bases, enabling clients to develop their own programs or process data on vendor's system.
 - *Other Processing Services*: Vendor provides services—usually at vendor site—such as scanning and other data entry services, laser printing, computer output microfilm (COM), CD preparation and other data output services, backup and disaster recovery, etc.

5. Systems Operations

Systems operations involves the operation and management of all or a significant part of the user's information systems functions under a long-term contract. These services can be provided in either of two distinct submodes:

- *Professional Services*: The vendor provides personnel to operate client-supplied equipment. Prior to 1990, this was a submode of the Professional Services delivery mode.
- *Processing Services*: The vendor provides personnel, equipment and (optionally) facilities. Prior to 1990, this was a submode of the Processing Services delivery mode.

Systems operations vendors now provide a wide variety of services in support of existing information systems. The vendor can plan, control, provide, operate, maintain and manage any or all components of the user's information systems (equipment, networks, systems and/or application software), either at the client's site or the vendor's site. Systems operations can also be referred to as "resource management" or "facilities management".

There are two general levels of systems operations:

- Platform/network operations - where the vendor operates the computer system and/or network without taking responsibility for the applications
- Application operations - where the vendor takes responsibility for the complete system, including equipment, associated telecommunications networks, and applications software.

Note: Systems Operations is a new delivery mode introduced in 1990.

6. Systems Integration (SI)

Systems integration is a business offering that provides a complete solution to an information system, networking or automation requirements through the custom selection and implementation of a variety of information system products and services. A systems integrator is responsible for the overall management of a systems integration contract and is the single point of contact and responsibility to the buyer for the delivery of the specified system function, on schedule and at the contracted price.

To be included in the information services market, systems integration projects must involve some application processing component. In addition, the majority of cost must be associated with information systems products and/or services.

The systems integrator will perform, or manage others who perform, most or all of the following functions:

- Program management, including subcontractor management
- Needs analysis
- Specification development
- Conceptual and detailed systems design and architecture
- System component selection, modification, integration and customization

- Custom software design and development
- Custom hardware design and development
- Systems implementation, including testing, conversion and post-implementation evaluation and tuning
- Life cycle support, including
 - System documentation and user training
 - Systems operations during development
 - Systems maintenance
- Financing

7. Professional Services

This category includes consulting, education and training, and software development.

- *Consulting*: services include management consulting (related to information systems), information systems consulting, feasibility analysis and cost-effectiveness studies, and project management assistance. Services may be related to any aspect of information systems, including equipment, software, networks and systems operations.
- *Education and Training*: Products and services related to information systems and services for the professional end user, including computer-aided instruction, computer-based education, and vendor instruction of user personnel in operations, design, programming, and documentation.
- *Software Development*: Services include user requirements definition, systems design, contract programming, documentation and implementation of software performed on a custom basis. Conversion and maintenance services are also included.

8. Network Services

Network services typically include a wide variety of network-based functions and operations. Their common thread is that most of these functions could not be performed without network involvement. Network services is divided into two major segments: Electronic Information Services, which involve selling information to the user, and Network Applications, which involve providing some form of enhanced transport service in support of a user's information processing needs.

- Electronic Information Services

Electronic information services are data bases that provide specific information via terminal- or computer-based inquiry, including items such as stock prices, legal precedents, economic indicators, periodical literature, medical diagnosis, airline schedules, automobile valuations, etc. The terminals used may be computers themselves, such as communications servers or personal computers. Users typically inquire into and extract information from the data bases. Although users may load extracted data into their own computer systems, the electronic information vendor provides no data processing or manipulation capability and the users cannot update the vendor's data bases.

The two kinds of electronic information services are:

- *On-line Data Bases* - Structured, primarily numerical data on economic and demographic trends, financial instruments, companies, products, materials, etc.
- *News Services* - Unstructured, primarily textual information on people, companies, events, etc.

While electronic information services have traditionally been delivered via networks, there is a growing trend toward the use of CD ROM optical disks to support or supplant on-line services, and these optical disk-based systems are included in the definition of this delivery mode.

- *Network Applications*
 - *Value-Added Network Services (VAN Services)* - VAN services are enhanced transport services which involve adding such functions as automatic error detection and correction, protocol conversion, and store-and-forward message switching to the provision of basic network circuits.

While VAN services were originally provided only by specialized VAN carriers (Tymet, Telenet, etc.), today these services are also offered by traditional common carriers (AT&T, Sprint, etc.). Meanwhile, the VAN carriers have also branched into the traditional common carriers' markets and are offering unenhanced basic network circuits as well.

INPUT's market definition covers VAN services only, but includes the VAN revenues of all types of carriers.

- *Electronic Data Interchange (EDI)* - Application-to-application exchange of standardized business documents between trade partners or facilitators. This exchange is commonly performed using VAN services. specialized translation software is typically employed to convert data from organizations' internal file formats to EDI interchange standards; this software may be provided as part of the VAN service, or may be resident on the organization's own computers.

- *Electronic Information Exchange (EIE)* - Also known as Electronic Mail (E-Mail), EIE involves the transmission of messages across an electronic network managed by a services vendor, including facsimile transmission (FAX), voice mail, voice messaging, and access to Telex, TWX, and other messaging services. This also includes bulletin board services.
- *Other Network Services* - This segment contains videotex and pure network management services. Videotex is actually more a delivery mode than an application. Its prime focus is on the individual as a consumer or in business. These services provide interactive access to data bases and offer the inquirer the capability to send as well as receive information for such purposes as home shopping, home banking, travel reservations, and more.

Network management services included here must involve the vendor's network and network management systems as well as people. People-only services, or services that involve the management of networks as part of the broader task of managing a user's information processing functions are included in Systems Operations.

C

Hardware/Hardware Systems

Hardware - Includes all computer and telecommunications equipment that can be separately acquired with or without installation by the vendor and not acquired as part of an integrated system.

- *Peripherals* - Includes all input, output, communications, and storage devices (other than main memory) that can be connected locally to the main processor, and generally cannot be included in other categories such as terminals.
- *Input Devices* - Includes keyboards, numeric pads, card readers, light pens and track balls, tape readers, position and motion sensors, and analog-to-digital converters.
- *Output Devices* - Includes printers, CRTs, projection television screens, micrographics processors, digital graphics, and plotters
- *Communication Devices* - Includes modem, encryption equipment, special interfaces, and error control
- *Storage Devices* - Includes magnetic tape (reel, cartridge, and cassette), floppy and hard disks, solid state (integrated circuits), and bubble and optical memories

Terminals - Three types of terminals are described below:

- *User Programmable* - Also called intelligent terminals, including the following:
 - Single-station or standalone
 - Multistation, shared processor
 - Teleprinter
 - Remote batch
- *User Nonprogrammable*
 - Single-station
 - Multistation, shared processor
 - Teleprinter
- *Limited Function* - Originally developed for specific needs, such as point-of-sale (POS), inventory data collection, controlled access, and other applications

Hardware Systems - Includes all processors from microcomputers to supercomputers. Hardware systems may require type- or model-unique operating software to be functional, but this category excludes applications software and peripheral devices, other than main memory and processors or CPUs not provided as part of an integrated (turnkey) system.

- *Microcomputer* - Combines all of the CPU, memory, and peripheral functions of an 8-, 16-, or 32-bit computer on a chip in various forms including:
 - Integrated circuit package
 - Plug-in boards with increased memory and peripheral circuits
 - Console including keyboard and interfacing connectors
 - Personal computer with at least one external storage device directly addressable by the CPU
 - An embedded computer which may take a number of shapes or configurations
- *Workstations* - High-performance, desktop, single-user computers employing (mostly) Reduced Instruction Set Computing (RISC). Workstations provide integrated, high-speed, local network-based services such as data base access, file storage and back-up, remote communications, and peripheral support. Typical workstation products are provided by Apollo (now a unit of Hewlett-Packard), Sun, Altos, DEC (the MicroVAX) and IBM. These products usually cost more than \$15,000. However, at this writing many companies have recently announced sizable price cuts.

- *Midsize Systems* - Describe superminicomputers and the more traditional business minicomputers. Due to steadily improving design and technology, the latter have outgrown traditional definitions (which defined small systems as providing 32-bit to 64-bit word lengths at prices ranging from \$15,000 to \$350,000). Increasingly, minicomputers and workstations meet the 32-bit definition, and may go beneath the \$15,000 lower price limit. Typical midrange systems include IBM System/3X, 43XX, AS/400, and 937X product lines, DEC PDP and VAX families (excluding MicroVAX families), and competitive products from a wide range of vendors, including HP, Data General, Wang, AT&T, Prime Concurrent, Gould, Unisys, NCR, Bull, Harris, Tandem, Stratus, and many others.
- *Large Computer* - Presently centered on storage controllers, but likely to become bus-oriented and to consist of multiple processors or parallel processor. Intended for structured mathematical and signal processing and typically used with general purpose, Von Neumann-type processors for system control. This term usually refers to traditional mainframes and supercomputers.
- *Supercomputer* - High-powered processors with numerical processing throughput that is significantly greater than the fastest general purpose computers, with capacities in the 100-500 million floating point operations per second (MFLOPS) range. Newer supercomputers, with burst modes over 500 MFLOPS, main storage size up to 10 million words, and on-line storage in the one-to-four gigabyte class, are labeled Class V to Class VII in agency long-range plans. Supercomputers fit in one of two categories:
 - Real Time - Generally used for signal processing in military applications
 - Non-Real Time - For scientific use in one of three configurations:
 - Parallel processors
 - Pipeline processor
 - Vector processor
 - *Supercomputer* - Is also applied to micro, mini, and large mainframe computers with performance substantially higher than attainable by Von Neumann architectures.
- *Embedded Computer* - Dedicated computer system designed and implemented as an integral part of a weapon, weapon system, or platform; critical to a military or intelligence mission such as command and control, cryptological activities, or intelligence activities. Characterized by military specifications (MIL SPEC) appearance and operation, limited but reprogrammable applications software, and permanent or

semipermanent interfaces. These systems may vary in capacity from microcomputers to parallel processor computer systems.

D

General Definitions

Analog - Signal or transmission type with continuous waveform representation.

ASCII - American National Standard Code for Information Interchange—Eight-bit code with seven data bits and one parity bit.

Asynchronous - Communications operation (such as transmission) without continuous timing signals. Synchronization is accomplished by appending signal elements to the data.

Bandwidth - Range of transmission frequencies that can be carried on a communications path; used as a measure of capacity.

Baud - Number of signal events (discrete conditions) per second. Typically used to measure modem or terminal transmission speed.

Byte - Usually equivalent to the storage required for one alphanumeric character (i.e., one letter or number).

CBX - Computerized Branch Exchange—A PABX based on a computer system, implying programmability and usually voice and data capabilities.

Central Processing Unit (CPU) - The arithmetic and control portion of a computer; i.e., the circuits controlling the interpretation and execution of computer instructions.

Centrex - Central office telephone services that permit local circuit switching without installation of customer premises equipment. Could be described as shared PBX service.

Circuit Switching - A process that, usually on demand, connects two or more network stations, and permits exclusive circuit use until the connection is released; typical of the voice telephone network, where a circuit is established between the caller and the called party.

CO - Central Office—Local telco site for one or more exchanges.

CODEC - Coder/decoder—Equivalent to modem for digital devices.

Constant Dollars - Growth forecasts in constant dollars make no allowance for inflation or recession. Dollar value based on the year of the forecast unless otherwise indicated.

Computer System - The combination of computing resources required to perform the designed functions. May include one or more CPUs, machine room peripherals, storage systems, and/or applications software.

CPE - Customer Premises Equipment—DCE or DTE located at a customer site rather than at a carrier site such as the local telephone company CO. May include switchboards, PBX, data terminals, and telephone answering devices.

CSMA/CD - Carrier Sense Multiple Access/Collision Detect—Contention protocol used in local-area networks, typically with a multipoint configuration.

Current Dollars - Estimates or values expressed in current-year dollars which, for forecasts, would include an allowance for inflation.

Data Encryption Standard (DES) - Fifty-six-bit key, one-way encryption algorithm adopted by NIST in 1977, implemented through hardware ("S-boxes") or software. Designed by IBM with NSA guidance.

Datagram - A self-contained packet of information that does not depend on the contents of preceding or following packets and has a finite length.

DCA - IBM's Document Content Architecture—Protocols for specifying document (text) format which are consistent across a variety of hardware and software systems within IBM's DISOSS.

DCE - Data Circuit-terminating Equipment—Interface hardware that couples DTE to a transmission circuit or channel by providing functions to establish, maintain, and terminate a connection, including signal conversion and coding.

DDCMP - Digital Data Communications Message Protocol—Data link protocol used in Digital Equipment Company's DECNET.

DECNET - Digital Equipment Company's network architecture.

Dedicated Circuit - A permanently established network connection between two or more stations; contrast with switched circuit.

DEMS - Digital Electronic Message Service—Nationwide common carrier digital networks which provide high-speed, end-to-end, two-way transmission of digitally encoded information using the 10.6 GHz band.

DIA - IBM's Document Interchange Architecture—Protocols for transfer of documents (text) between different hardware and software systems within IBM's DISOSS.

Digital - Signal or transmission type using discontinuous, discrete quantities to represent data.

DISOSS - IBM's DIStributed Office Support System—Office automation environment, based on DCA and DIA, which permits document (text) transfer between different hardware and software systems without requiring subsequent format or content revision.

Distributed Data Processing - The development of programmable intelligence in order to perform a data processing function where it can be accomplished most effectively through computers and terminals arranged in a telecommunications network adapted to the user's needs.

DTE - Data Terminal Equipment—Hardware which is a data source, link, or both, such as video display terminals that convert user information into data transmission, and reconvert data signals into user information.

EBCDIC - Extended Binary Coded Decimal Interchange Code—Eight-bit code typically used in IBM mainframe environments.

EFT - Electronic funds transfer.

Encryption - Electric, code-based conversion of transmitted data to provide security and/or privacy of data between authorized access points.

End User - One who is using a product or service to accomplish his or her own functions. The end user may buy a system from the hardware supplier(s) and do his or her own programming, interfacing, and installation. Alternately, the end user may buy a turnkey system from a systems house or hardware integrator, or may buy a service from an in-house department or external vendor.

Engineering Change Notice (ECN) - Product improvements after production.

Engineering Change Order (ECO) - The follow-up to ECNs, including parts and a bill of materials to effect the change in the hardware.

Equipment Operators - Individuals operating computer control consoles and/or peripheral equipment (BLS definition).

Erasable Disk - A type of disk that allows users to erase data previously written. Erasable disks used for applications where data may need to be updated periodically.

Ethernet - Local-area network developed by Xerox PARC using baseband signaling, CSMA/CD protocol, and coaxial cable to achieve a 10 mbps data rate.

Facsimile - Transmission and reception of graphic data, usually fixed images of documents, through scanning and conversion of a picture signal.

FDM - Frequency Division Multiplexing—A multiplexing method that permits multiple access by assigning different frequencies of the available bandwidth to different channels.

FEP - Front-End Processor—Communications concentrator such as the IBM 3725 or COMTEN 3690 used to interface communications lines to host computers.

Field Engineer (FE) - Field engineer, customer engineer, serviceperson, and maintenance person are used interchangeably and refer to the individual who responds to a user's service call to repair a device or system.

Full-Duplex - Bi-directional communications, with simultaneous, two-way transmission.

General Purpose Computer System - A computer designed to handle a wide variety of problems. Includes machine room peripherals, systems software, and small business systems.

Half-Duplex - Bi-directional communications, but only in one direction at a time.

Hardware Integrator - Develops system interface electronics and controllers for the CPU, sensors, peripherals, and all other ancillary hardware components. The hardware integrator also may develop control system software in addition to installing the entire system at the end-user site.

HDLC - High-level Data Link Control.

Hertz- Number of signal oscillations (cycles) per second, abbreviated Hz.

IBM Token Ring - IBM's local-area network using baseband signalling and operating at 4 mbps on twisted-pair copper wire. Actually a combination of star and ring topologies—IEEE 802.5-compatible.

IDN - Integrated Digital Network—Digital switching and transmission; part of the evolution to ISDN.

Independent Suppliers - Suppliers of machine room peripherals, though usually not suppliers of general purpose computer systems.

Information Processing - Data processing as a whole, including use of business and scientific computers.

Installed Base - Cumulative number or value (cost when new) of computers in use.

Interconnection - Physical linkage between devices on a network.

Interoperability - The capability to operate with other devices on a network. Different from interconnection, which merely guarantees a physical network interface.

ISDN - Integrated Services Digital Network—Completely digital, integrated voice and nonvoice public network service. Not clearly defined through any existing standards, although FCC and other federal agencies are developing CCITT recommendations.

Keypunch Operators - Individuals operating keypunch machines (similar to electric typewriters) to transcribe data from source materials onto punch cards.

Lease Line - Permanent connection between two network stations. Also known as dedicated or non-switched line.

Machine Repairers - Individuals who install and periodically service computer systems.

Machine Room Peripherals - Peripheral equipment generally located close to the central processing unit.

Mainframe - The central processing unit (CPU or units in a parallel processor) of a computer that interprets and executes computer (software) instructions of 32 bits or more.

MAP - Manufacturing Automation Protocol—Seven-layer communications standard for factory environments promoted by General Motors/EDS. Adopts IEEE 802.2 and IEEE 802.4 standards plus OSI protocols for other layers of the architecture.

Mean Time to Repair - The mean of elapsed times from the arrival of the field engineer on the user's site to the time when the device is repaired and returned to user service.

Mean Time to Respond - The mean of elapsed times from the user call for services and the arrival of the field engineer on the user's site.

Message - A communication intended to be read by a person. The quality of the received document need not be high, only readable. Graphic materials are not included.

MMFS - Manufacturing Messaging Format Standard—Application-level protocol included within MAP.

Modem - A device that encodes information into electronically transmittable form (MOdulator) and restores it to original analog form (DEModulator).

NCP - Network Control Program—Software used in IBM 3705/3725 FEPs for control of SNA networks.

Node - Connection point of three or more independent transmission points which may provide switching or data collection.

Off-Line - Pertaining to equipment or devices that can function without direct control of the central processing unit.

On-Line - Pertaining to equipment or devices under direct control of the central processing unit.

Optical Disk - Storage device that uses laser technology to record data. Optical disks provide high storage capacity, but cannot be overwritten.

OSI - ISO reference model for Open Systems Interconnection—Seven-layer architecture for application, presentation, session, transport, network, data link, and physical services and equipment.

OSI Application Layer - Layer 7, providing end-user applications services for data processing.

OSI Data Link Layer - Layer 2, providing transmission protocols, including frame management, link flow control, and link initiation/release.

OSI Network Layer - Layer 3, providing call establishment and clearing control through the network nodes.

OSI Physical Layer - Layer 1, providing the mechanical, electrical, functional, and procedural characteristics to establish, maintain, and release physical connections to the network.

OSI Presentation Layer - Layer 6, providing data formats and information such as data translation, data encoding/decoding, and command translation.

OSI Session Layer - Layer 5, establishes, maintains, and terminates logical connections for the transfer of data between processes.

OSI Transport Layer - Layer 4, providing end-to-end terminal control signals such as acknowledgments.

Overseas - Not within the geographical limits of the continental United States, Alaska, Hawaii, and U.S. possessions.

PABX - Private Automated Branch Exchange—Hardware that provides automatic (electro-mechanical or electronic) local circuit switching on a customer's premises.

PAD - Packet Assembler-Disassembler—A device that enables DTE not equipped for packet switching operation to operate on a packet switched network.

PBX - Private Branch Exchange—Hardware that provides local circuit switching on the customer premise.

PCM - Pulse-Code Modulation—Modulation involving conversion of a waveform from analog to digital form through coding.

PDN - Public Data Network—A network established and operated by a recognized private operating agency, a telecommunications administration, or other agency for the specific purpose of providing data transmission services to the public.

Peripherals - Any unit of input/output equipment in a computer system, exclusive of the central processing unit.

PPM - Pulse Position Modulation.

Private Network - A network established and operated for one user or user organization.

Programmers - Persons mainly involved in designing, writing, and testing computer software programs

Protocols - The rules for communication system operation that must be followed if communication is to be effected. Protocols may govern portions of a network or service. In digital networks, protocols are digitally encoded as instructions to computerized equipment.

Public Network - A network established and operated for more than one user with shared access, usually available on a subscription basis. See related international definition of PDN.

Read-Only - A type of disk that is prerecorded and can be used for retrieving data. A read-only disk cannot be overwritten. A read-only system will retrieve and display stored data, but the system cannot alter the stored data.

Read/Write - A type of disk that can be read and written upon. A read/write system will read and display stored data and alter data already recorded.

Scientific Computer System - A computer system designed to process structured mathematics (such as Fast Fourier Transforms), and complex, highly redundant information (such as seismic data, sonar data, and radar), with large, on-line memories and very high-capacity output.

SDLC - Synchronous Data Link Control—IBM's data link control for SNA. Supports a subset of HDLC modes.

SDN - Software-Defined Network.

Security - Physical, electrical, and computer (digital) coding procedures to protect the contents of computer files and data transmission from inadvertent or unauthorized disclosure to meet the requirements of the Privacy Act and national classified information regulations

Service Delivery Point - The location of the physical interface between a network and customer/user equipment

Simplex - Unidirectional communications.

Smart Box - A device for adapting existing DTE to new network standards such as OSI. Includes PADs and protocol convertors, for example.

SNA - Systems Network Architecture—Seven-layer communications architecture designed by IBM. Layers correspond roughly but not exactly to OSI model.

Software - Computer programs

Supplies - Includes materials associated with the use of operations of computer systems, such as printer paper, keypunch card, disk packs, and tapes.

Switched Circuit - Temporary connection between two network stations established through dial-up procedures.

Synchronous - Communications operation with separate, continuous clocking at both sending and receiving stations.

Systems Analyst - Individual who analyzes problems to be converted to a programmable form for application to computer systems.

Systems House - Vendor that acquires, assembles, and integrates hardware and software into a total system to satisfy the data processing requirements of an end user. The vendor also may develop systems software products for license to end users. The systems house vendor does not manufacture mainframes.

Systems Integrator - Systems house vendor that develops systems interface electronics, applications software, and controllers for the CPU, peripherals, and ancillary subsystems which may have been provided by a contractor or the government (GFE). This vendor may either supervise or perform the installation and testing of the completed system.

T1 - Bell System designation for 1.544 mbps carrier capable of handling 24 PCM voice channels.

TDM - Time Division Multiplexing—A multiplexing method that interleaves multiple transmissions on a single circuit by assigning a different time slot to each channel.

Token Passing - Local-area network protocol which allows a station to transmit only when it has the "token," an empty slot on the carrier.

TOP - Technical Office Protocol—Protocol developed by Boeing Computer Services to support administrative and office operations as complementary functions to factory automation implemented under MAP.

Turnkey System - System composed of hardware and software integrated into a total system designed to fulfill completely the processing requirements of a single application.

Twisted-Pair Cable - Communications cabling consisting of pairs of single-strand metallic electrical conductors, such as copper wires, typically used in building telephone wiring and some LANs.

Verification and Validation - Process for examining and testing applications and special systems software to verify that it operates on the target CPU and performs all of the functions specified by the user.

Voice-Grade - Circuit or signal in the 300-3300 Hz bandwidth typical of the public telephone system, nominally a 4 KHz user.

VTAM - Virtual Telecommunications Access Method—Host-resident communications software for SNA networks.

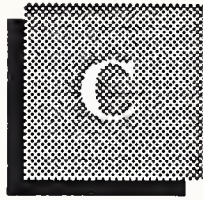
WORM - Write-Once, Read-Many—A type of disk that can be created one time. Once written on, the disk can only be read—otherwise data will be destroyed.

Write-Once - A type of disk that can be created one time. Once written on, the disk can only be read. It cannot be rewritten.

E

Other Considerations

When questions arise as to the proper place to count certain user expenditures, INPUT addresses the questions from the user viewpoint. Expenditures are then categorized according to the users' perception of the purchase.



Glossary of Acronyms

The federal government's procurement language uses a combination of acronyms, phrases, and words that is complicated by different agency definitions and interpretations. The government also uses terms of accounting, business, economics, engineering, and law with new applications and technology.

Acronyms and contract terms that INPUT encountered most often in program documentation and interviews for this report are included here, but this glossary should not be considered all-inclusive. Federal procurement regulations (DAR, FPR, FAR, FIRMR, FPMR) and contract terms listed in RFIs, RFPs, and RFQs provide applicable terms and definitions.

Federal agency acronyms have been included to the extent they are employed in this report.

A

Federal Acronyms

AAS	Automatic Addressing System.
AATMS	Advanced Air Traffic Management System.
ACO	Administrative Contracting Offices (DCAS).
ACS	Advanced Communications Satellite (formerly NASA 30/20 GHz Satellite Program).
ACT-1	Advanced Computer Techniques (Air Force).
Ada	DoD High-Order Language.
ADA	Airborne Data Acquisition.
ADL	Authorized Data List.
ADS	Automatic Digital Switches (DCS).
AFA	Air Force Association.
AFCEA	Armed Forces Communications Electronics Association.
AGE	Aerospace Ground Equipment.
AIP	Array Information Processing.

AIS	Automated Information System.
AMPE	Automated Message Processing Equipment.
AMPS	Automated Message Processing System.
AMSL	Acquisition Management Systems List.
ANG	Army National Guard
AP(P)	Advance Procurement Plan.
Appropriation	Congressionally approved funding for authorized programs and activities of the Executive Branch.
APR	Agency Procurement Request.
ARPANET	DARPA network of scientific computers.
ASP	Aggregated Switch Procurement.
ATLAS	Abbreviated Test Language for All Systems (for ATE-Automated Test Equipment).
Authorization	In the legislative process programs, staffing, and other routine activities must be approved by Oversight Committees before the Appropriations Committee will approve the money from the budget.
AUSA	Association of the U.S. Army.
AUTODIN	AUTOMatic DIGital Network of the Defense Communications System.
AUTOSEVOCOM	AUTOMatic SEcure VOice COMmunications Network.
AUTOVON	AUTOMatic VOice Network of the Defense Communications System.
BA	Basic Agreement.
BAFO	Best And Final Offer.
Base level	Procurement, purchasing, and contracting at the military installation level.
BCA	Board of Contract Appeals.
Benchmark	Method of evaluating ability of a candidate computer system to meet user requirements.
Bid protest	Objection (in writing, before or after contract award) to some aspect of a solicitation by a valid bidder.
BML	Bidders Mailing List - qualified vendor information filed annually with federal agencies to automatically receive RFPs and RFQs in areas of claimed competence.
BOA	Basic Ordering Agreement.
B&P	Bid and Proposal - vendor activities in response to government solicitation/specific overhead allowance.
BPA	Blanked Purchase Agreement.
Budget	Federal Budget, proposed by the President and subject to Congressional review.
C ²	Command and Control.
C ³	Command, Control, and Communications.
C ⁴	Command, Control, Communications, and Computers.
C ³ I	Command, Control, Communications, and Intelligence.
CAB	Contract Adjustment Board or Contract Appeals Board.
CADE	Computer-Aided Design and Engineering.
CADS	Computer-Assisted Display Systems.
CAIS	Computer-Assisted Instruction System.
CALS	Computer-Aided Automated Logistic System.
CAPS	Command Automation Procurement Systems.

CAS	Contract Administration Services or Cost Accounting Standards.
CASB	Cost Accounting Standards Board.
CASP	Computer-Assisted Search Planning.
CBD	<i>Commerce Business Daily</i> —U.S. Department of Commerce publication listing government contract opportunities and awards.
CBO	Congressional Budget Office.
CCEP	Commercial Comsec Endorsement Program.
CCDR	Contractor Cost Data Reporting.
CCN	Contract Change Notice.
CCPDS	Command Center Processing and Display Systems.
CCPO	Central Civilian Personnel Office.
CCTC	Command and Control Technical Center (JCS).
CDR	Critical Design Review.
CDRL	Contractor Data Requirement List.
CFE	Contractor-Furnished Equipment.
CFR	Code of Federal Regulations.
CICA	Competition in Contracting Act.
CIG	Computerized Interactive Graphics.
CIR	Cost Information Reports.
CM	Configuration Management.
CMI	Computer-Managed Instruction.
CNI	Communications, Navigation, and Identification.
CO	Contracting Office, Contract Offices, or Change Order.
COC	Certificate of Competency (administered by the Small Business Administration).
COCO	Contractor-Owned, Contractor-Operated.
CODSIA	Council of Defense and Space Industry Associations.
COMSTAT	Communications Satellite Corporation.
CONUS	CONtinental United States.
COP	Capability Objective Package.
COTR	Contracting Officer's Technical Representative.
CP	Communications Processor.
CPAF	Cost-Plus-Award-Fee Contract.
CPFF	Cost-Plus-Fixed-Fee Contract.
CPIF	Cost-Plus-Incentive-Fee Contract.
CPR	Cost Performance Reports.
CPSR	Contractor Procurement System Review.
CR	Cost Reimbursement (Cost Plus Contract).
CSA	Combat or Computer Systems Architecture.
C/SCSC	Cost/Schedule Control System Criteria (also called "C-Spec").
CWAS	Contractor Weighted Average Share in Cost Risk.
DAL	Data Accession List.
DAR	Defense Acquisition Regulations.
DARPA	Defense Advanced Research Projects Agency.
DAS	Data Acquisition System.
DBHS	Data Base Handling System.
DCA	Defense Communications Agency.

DCAA	Defense Contract Audit Agency.
DCAS	Defense Contract Administration Services.
DCASR	DCAS Region.
DCC	Digital Control Computer.
DCP	Development Concept Paper (DoD).
DCS	Defense Communications System.
DCTN	Defense Commercial Telecommunications Network.
DDA	Dynamic Demand Assessment (Delta Modulation).
DDC	Defense Documentation Center.
DDL	Digital Data Link - A segment of a communications network used for data transmission in digital form.
DDN	Defense Data Network.
DDS	Dynamic Diagnostics System.
DECCO	DEfense Commercial Communications Office.
DECEO	DEfense Communications Engineering Office.
D&F	Determination and Findings - required documentation for approval of a negotiated procurement.
DIA	Defense Intelligence Agency.
DIF	Document Interchange Format, Navy-sponsored word processing standard.
DHHS	Department of Health and Human Services.
DIDS	Defense Integrated Data Systems.
DISC	Defense Industrial Supply Center.
DLA	Defense Logistics Agency.
DMA	Defense Mapping Agency.
DNA	Defense Nuclear Agency.
DO	Delivery Order.
DOA	Department of Agriculture (also USDA).
DOC	Department of Commerce.
DOE	Department of Energy.
DOI	Department of Interior.
DOJ	Department of Justice.
DOS	Department of State.
DOT	Department of Transportation.
DPA	Delegation of Procurement Authority (granted by GSA under FPRs).
DPC	Defense Procurement Circular.
DQ	Definite Quantity Contract.
DQ/PL	Definite Quantity Price List Contract.
DR	Deficiency Report.
DSCS	Defense Satellite Communication System.
DSN	Defense Switched Network.
DSP	Defense Support Program (WWMCCS).
DSS	Defense Supply Service.
DTC	Design-To-Cost.
ECP	Engineering Change Proposal.
ED	Department of Education.
EEO	Equal Employment Opportunity.
8(a) Set-Aside	Agency awards direct to Small Business Administration for direct placement with a socially/economically disadvantaged company.

EMC	Electro-Magnetic Compatibility.
EMCS	Energy Monitoring and Control System.
EO	Executive Order - Order issued by the President.
EOQ	Economic Ordering Quantity.
EPA	Economic Price Adjustment.
EPA	Environmental Protection Agency.
EPMR	Estimated Peak Monthly Requirement.
EPS	Emergency Procurement Service (GSA) or Emergency Power System.
EUC	End User Computing, especially in DoD.
FA	Formal Advertising.
FAC	Facility Contract.
FAR	Federal Acquisition Regulations.
FCA	Functional Configuration Audit.
FCC	Federal Communications Commission.
FCDC	Federal Contract Data Center.
FCRC	Federal Contract Research Center.
FDPC	Federal Data Processing Center.
FEDSIM	Federal (Computer) Simulation Center (GSA).
FEMA	Federal Emergency Management Agency.
FFP	Firm Fixed-Price Contract (also Lump Sum Contract).
FIPS	NBS Federal Information Processing Standard.
FIPS PUBS	FIPS Publications.
FIRMR	Federal Information Resource Management Regulations.
FMS	Foreign Military Sales.
FOC	Final Operating Capability.
FOIA	Freedom of Information Act.
FP	Fixed-Price Contract.
FP-L/H	Fixed-Price - Labor/Hour Contract.
FP-LOE	Fixed-Price - Level-Of-Effort Contract.
FPMR	Federal Property Management Regulations.
FPR	Federal Procurement Regulations.
FSC	Federal Supply Classification.
FSG	Federal Supply Group.
FSN	Federal Supply Number.
FSS	Federal Supply Schedule or Federal Supply Service (GSA).
FSTS	Federal Secure Telecommunications System.
FT Fund	A revolving fund, designated as the Federal Telecommunications Fund, used by GSA to pay for GSA-provided common-user services, specifically including the current FTS and proposed FTS 2000 services.
FTSP	Federal Telecommunications Standards Program administered by NCS; Standards are published by GSA.
FTS	Federal Telecommunications System.
FTS 2000	Proposed replacement for the Federal Telecommunications System.
FY	Fiscal Year.
FYDP	Five-Year Defense Plan.
GAO	General Accounting Office.
GFE	Government-Furnished Equipment.

GFM	Government-Furnished Material.
GFY	Government Fiscal Year (October to September).
GIDEP	Government-Industry Data Exchange Program.
GOCO	Government Owned - Contractor Operated.
GOGO	Government Owned - Government Operated.
GOSIP	Government Open Systems Interconnection Profile.
GPO	Government Printing Office.
GPS	Global Positioning System.
GRH	Gramm-Rudman-Hollings Act (1985), also called Gramm-Rudman Deficit Control.
GS	General Schedule.
GSA	General Services Administration.
GSBCA	General Services Administration Board of Contract Appeals.
HCFA	Health Care Financing Administration.
HHS	(Department of) Health and Human Services.
HPA	Head of Procuring Activity.
HSDP	High-Speed Data Processors.
HUD	(Department of) Housing and Urban Development.
ICA	Independent Cost Analysis.
ICAM	Integrated Computer-Aided Manufacturing.
ICE	Independent Cost Estimate.
ICP	Inventory Control Point.
ICST	Institute for Computer Sciences and Technology, National Bureau of Standards, Department of Commerce.
IDAMS	Image Display And Manipulation System.
IDEP	Interservice Data Exchange Program.
IDN	Integrated Data Network.
IFB	Invitation For Bids.
IOC	Initial Operating Capability.
IOI	Internal Operating Instructions.
IPS	Integrated Procurement System.
IQ	Indefinite Quantity Contract.
IR&D	Independent Research & Development.
IRM	Information Resources Management.
IXS	Information Exchange System.
JFMIP	Joint Financial Management Improvement Program.
JOCIT	Jovial Compiler Implementation Tool.
JSIPS	Joint Systems Integration Planning Staff.
JSOP	Joint Strategic Objectives Plan.
JSOR	Joint Service Operational Requirement.
JUMPS	Joint Uniform Military Pay System.
LC	Letter Contract.
LCC	Life Cycle Costing.
LCMP	Life Cycle Management Procedures (DD7920.1).

LCMS	Life Cycle Management System.
L-H	Labor-Hour Contract.
LOI	Letter of Interest.
LRPE	Long-Range Procurement Estimate.
LRIRP	Long-Range Information Resource Plan.
MAISRC	Major Automated Information Systems Review Council (DoD).
MANTECH	MANufacturing TECHnology.
MAPS	Multiple Address Processing System.
MAP/TOP	Manufacturing Automation Protocol/Technical and Office Protocol.
MASC	Multiple Award Schedule Contract.
MDA	Multiplexed Data Accumulator.
MENS	Mission Element Need Statement or Mission Essential Need Statement (see DD-5000.1 Major Systems Acquisition).
MILSCAP	Military Standard Contract Administration Procedures.
MIL SPEC	Military Specification.
MIL STD	Military Standard.
MIPR	Military Interdepartmental Purchase Request.
MOD	Modification.
MOL	Maximum Ordering Limit (Federal Supply Service).
MPC	Military Procurement Code.
MYP	Multi-Year Procurement.
NARDIC	Navy Research and Development Information Center.
NASA	National Aeronautics and Space Administration.
NBS	National Bureau of Standards.
NCMA	National Contract Management Association.
NCS	National Communications System; responsible for setting U.S. Government standards administered by GSA; also holds primary responsibility for emergency communications planning.
NICRAD	Navy-Industry Cooperative Research and Development.
NIP	Notice of Intent to Purchase.
NMCS	National Military Command System.
NSA	National Security Agency.
NSEP	National Security and Emergency Preparedness.
NSF	National Science Foundation.
NSIA	National Security Industrial Association.
NTIA	National Telecommunications and Information Administration of the Department of Commerce; replaced the Office of Telecommunications Policy in 1970 as planner and coordinator for government communications programs; primarily responsible for radio.
NTIS	National Technical Information Service.
Obligation	"Earmarking" of specific funding for a contract from committed agency funds.
OCS	Office of Contract Settlement.
OFCC	Office of Federal Contract Compliance.
Off-Site	Services to be provided near but not in government facilities.
OFMP	Office of Federal Management Policy (GSA).

OFPP	Office of Federal Procurement Policy.
OIRM	Office of Information Resources Management.
O&M	Operations & Maintenance.
OMB	Office of Management and Budget.
O,M&R	Operations, Maintenance, and Readiness.
On-Site	Services to be performed on a government installation or in a specified building.
OPM	Office of Procurement Management (GSA) or Office of Personnel Management.
Options	Sole-source additions to the base contract for services or goods to be exercised at the government's discretion.
OSHA	Occupational Safety and Health Act.
OSI	Open System Interconnect.
OSP	Offshore Procurement.
OTA	Office of Technology Assessment (Congress).
Out-Year	Proposed funding for fiscal years beyond the Budget Year (next fiscal year).
P-I	FY Defense Production Budget.
P3I	Pre-Planned Product Improvement (program in DoD).
PAR	Procurement Authorization Request or Procurement Action Report.
PAS	Pre-Award Survey.
PASS	Procurement Automated Source System.
PCO	Procurement Contracting Officer.
PDA	Principal Development Agency.
PDM	Program Decision Memorandum.
PDR	Preliminary Design Review.
PIR	Procurement Information Reporting.
PME	Performance Monitoring Equipment.
PMP	Purchase Management Plan.
PO	Purchase Order or Program Office.
POM	Program Objective Memorandum.
POSIX	Portable Open System Interconnection Exchange.
POTS	Purchase of Telephone Systems.
PPBS	Planning, Programming, Budgeting System.
PR	Purchase Request or Procurement Requisition.
PRA	Paperwork Reduction Act.
PS	Performance Specification - alternative to a Statement of Work, when work to be performed can be clearly specified.
QA	Quality Assurance.
QAO	Quality Assurance Office.
QMCS	Quality Monitoring and Control System (DoD software).
QMR	Qualitative Material Requirement (Army).
QPL	Qualified Products List.
QRC	Quick Reaction Capability.
QRI	Quick Reaction Inquiry.
R-I	FY Defense RDT&E Budget.
RAM	Reliability, Availability, and Maintainability.
RC	Requirements Contract.

R&D	Research and Development.
RDA	Research, Development, and Acquisition.
RDD	Required Delivery Date.
RD&E	Research, Development, and Engineering.
RDF	Rapid Deployment Force.
RDT&E	Research, Development, Test, and Engineering.
RFI	Request For Information.
RFP	Request For Proposal.
RFQ	Request For Quotation.
RFTP	Request For Technical Proposals (Two-Step).
ROC	Required Operational Capability.
ROI	Return On Investment.
RTAS	Real Time Analysis System.
RTDS	Real Time Display System.
SA	Supplemental Agreement.
SBA	Small Business Administration.
SB Set-Aside	Small Business Set-Aside contract opportunities with bidders limited to certified small businesses.
SCA	Service Contract Act (1964 as amended).
SCN	Specification Change Notice.
SDN	Secure Data Network.
SEC	Securities and Exchange Commission.
SE&I	Systems Engineering and Integration.
SETA	Systems Engineering/Technical Assistance.
SETS	Systems Engineering/Technical Support.
SIBAC	Simplified Intragovernmental Billing and Collection System.
SIMP	Systems Integration Master Plan.
SIOP	Single Integrated Operations Plan.
SNAP	Shipboard Nontactical ADP Program.
Sole Source	Contract award without competition.
Solicitation	Invitation to submit a bid.
SOR	Specific Operational Requirement.
SOW	Statement of Work.
SSA	Source Selection Authority (DoD).
SSAC	Source Selection Advisory Council.
SSEB	Source Selection Evaluation Board.
SSO	Source Selection Official (NASA).
STINFO	Scientific and Technical INFOrmation Program - Air Force/NASA.
STU	Secure Telephone Unit.
SWO	Stop-Work Order.
Synopsis	Brief Description of contract opportunity in CBD after D&F and before release of solicitation.
TA/AS	Technical Assistance/Analysis Services.
TCP/IP	Transmission Control Protocol/Internet Protocol.

TEMPEST	Studies, inspections, and tests of unintentional electromagnetic radiation from computer, communication, command, and control equipment that may cause unauthorized disclosure of information; usually applied to DoD and security agency testing programs.
TILO	Technical and Industrial Liason Office—Qualified Requirement Information Program - Army.
TM	Time and Materials contract.
TOA	Total Obligational Authority (Defense).
TOD	Technical Objective Document.
TR	Temporary Regulation (added to FPR, FAR).
TRACE	Total Risk Assessing Cost Estimate.
TRCO	Technical Representative of the Contracting Offices.
TREAS	Department of Treasury.
TRP	Technical Resources Plan.
TSP	GSA's Teleprocessing Services Program.
TVA	Tennessee Valley Authority.
UCAS	Uniform Cost Accounting System.
USA	U.S. Army.
USAF	U.S. Air Force.
USCG	U.S. Coast Guard.
USMC	U.S. Marine Corps.
USN	U.S. Navy.
U.S.C.	United States Code.
USPS	United States Postal Service.
USRRB	United States Railroad Retirement Board.
VA	Veterans Affairs Department.
VE	Value Engineering.
VHSIC	Very High Speed Integrated Circuits.
VIABLE	Vertical Installation Automation BaseLine (Army).
VICI	Voice Input Code Identifier.
WBS	Work Breakdown Structure.
WGM	Weighted Guidelines Method.
WIN	WWMCCS Intercomputer Network.
WITS	Washington Interagency Telecommunications System.
WIS	WWMCCS Information Systems.
WS	Work Statement - Offerer's description of the work to be done (proposal or contract).
WWMCCS	World-Wide Military Command and Control System.

B**General and Industry Acronyms**

ADAPSO	Association of Data Processing Service Organization, now the Computer Software and Services Industry Association.
ADP	Automatic Data Processing.
ADPE	Automatic Data Processing Equipment.
ANSI	American National Standards Institute.
BOC	BELL Operating Company.
CAD	Computer-Aided Design.
CAM	Computer-Aided Manufacturing.
CBEMA	Computer and Business Equipment Manufacturers Association.
CCIA	Computers and Communications Industry Association.
CCITT	Comite Consultatif Internationale de Telegraphique et Telephonique; Committee of the International Telecommunication Union.
COBOL	COmmon Business-Oriented Language.
COS	Corporation for Open Systems.
CPU	Central Processor Unit.
DMBS	Data Base Management System.
DRAM	Dynamic Random Access Memory.
EIA	Electronic Industries Association.
EPROM	Erasible Programmable Read-Only-Memory.
IEEE	Institute of Electrical and Electronics Engineers.
ISDN	Integrated Services Digital Networks.
ISO	International Organization for Standardization; voluntary international standards organization and member of CCITT.
ITU	International Telecommunication Union.
LSI	Large-Scale Integration.
MFJ	Modified Final Judgement.
PROM	Programmable Read-Only Memory.
RBOC	Regional Bell Operating Company.
UNIX	AT&T Proprietary Operating System.
UPS	Uninterruptable Power Source.
VAR	Value Added Retailer.
VLSI	Very Large Scale Integration.
WORM	Write-Once-Read-Many-Times.

C**DLA Acronyms**

ACO	Administrative Accounting Office
ACMS	Automated Career Management Systems
ADPER	Automated Data Processing Equipment Replacement Program
ADPFSR	ADP Facility Security Representative
ADPR	Automated Data Processing Resources
ADPSSR	ADP System Security Representative
ADR	Average Daily Rate
AFMS	Automated Facilities Management System
AFR	Air Force Regulation
AIMS	Automated Inventory Manager Support System
AIS	Automated Information System
ALS	Application Level Specification
ALT	Acquisition Lead Time
AM	Acquisition Management
AMHS	Automated Materiel Handling System
AMIS	Acquisition Management Information System
AMS	AIS Management System
AOB	Annual Operating Budget
APCAPS	Automated Payroll, Cost and Personnel System
APCRSS	Automated Plant Cleanace Reutilization Screening System
APIS	Automated Payment of Invoice System
ARMS	Automation Resources Management System
ARPANET	Advanced Research Projects Agency Network
ASD(C3I)	Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)
ASD (P&L)	Office Secretary of Defense (Production and Logistics)
AWARES	Automated Warehousing and Retrieval System
BAA	Business Area Analysis
BAR	Business Area Requirements
BEP	Basic Energy Plan
BES	Budget Estimated Submission
BOSS	Base Operations Support System
BPA	Blanket Purchase Agreement
BSP	Business System Planning
C&T	Clothing and Textiles
CAR	Contracting Acquisition Regulation
CARRS	Computer Assisted Requisition Review Reentry System
CARUS	Cost Accounting and Resource Utilization System
CAS	Contract Administration Services
CBA	Cost Benefit Analysis
CBE	Critical Baseline Enhancements
CCB	Configuration Control Board
CDA	Central Design Activities

CDCS/QEP	Customer Depot Complaint System/Quality Evaluation Program
CDIN	CONUS Defense Integrated Network
CDMS	Contracting Data Management System
CDR	Critical Design Review
CDRL	Contract Data Requirements List
CDS	Contract Decision/Analysis Support Program
CFE	Contractor Furnished Equipment
CFR	Conceptual Functional Requirements
CIRS	Contractor Inventory Redistribution System
CISIL	Customer Information System for International Logistics
CLGN/LGN	Central Logistics Gateway Node/Logistics Gateway Node
COLAN	Central Office Local Area Network
COMPASS	Contract Management Paperless Support System
COMPUSEC	Computer Security
COMSEC	Communications Security
CONUS	Continental United States
COOP	Continuation of Operations Plan
COPS	Commodity Oriented Procurement Support
COR	Contracting Officer's Representative
COSACS	Command Security Automated Control System
COTR	Contracting Officer's Technical Representative
COTS	Commercial Off-The-Shelf
CPMS	Contract Property Management System
CPR	Cost Performance Report
CPSRS	Contractor Purchasing System Review System
CR	Change Request
C/SCSC	Cost/Schedule Control System Criteria
CSF	Critical Success Factor
C/SSR	Cost/Schedule Status Reports
CTDF	Contracting Technical Data File
CTOL	Cataloging Tools On-Line
CWBS	Contract Work Breakdown Schedule
DAA	Designated Approval Authority
DAAS	Defense Automatic Addressing System
DAASO	Defense Automatic Addressing System Office
DAB	Defense Acquisition Board
DACMS	DLA-A Contractor Management System
DACO	DLA ADP/T Contracting Office
DACS	DASSO Autodin Control System
DAIPC	DLA Automated Information Processing Center (now IPC-C)
DAISRC	DRMS Automated Information System Review Council
DAISY	Disposal Automated Information System
DAMDS	Defense Acquisition Management Data System
DAMS	Data Analysis Management Support, Minicomputer Tier II Application
DARIC	Defense Automation Resources Information Center
DARO	Defense ADPE Reutilization Office
DARP	DAAS ADPE Replacement Program

DAS	Direct Access Storage
DASA	DAASO Advanced System Architecture
DASA AUX	DAAS Advanced System Architecture Auxiliary System
DASC	DLA Administrative Support Center
DASSO	Defense Automatic Addressing System Office
DCAPO	DLA Commercial Activity Program Office
DCARS	DLA Contract Action Reporting System
DCAS	Defense Contract Administration Services (former)
DCASR	Defense Contract Administration Services Region (now districts)
DCMAOS	Defense Contract Management Administration Offices
DCMC	Defense Contract Management Command
DCMCI	Defense Contract Management Command International
DCMD	Defense Contract Management Districts
DCMDC	Defense Contract Management District North Central
DCMDM	Defense Contract Management District Mid-Atlantic
DCMDN	Defense Contract Management District Northeast
DCMDS	Defense Contract Management District South
DCMDW	Defense Contract Management District West
DCMO	Defense Civilian Personnel Management Support Office
DCSC	Defense Construction Supply Center
DDMO	Defense Data Management Office
DDMP	Defense Depot Mechanicsburg, Pennsylvania
DDMT	Defense Depot Memphis, Tennessee
DDOU	Defense Depot Odgen, Utah
DDR	Defense Distribution Region Intermountain (proposed)
DDRV	Defense Depot Richmond, Virginia
DDRW	Defense Depot Region West
DDS	Defense Distribution System
DDS/DWASP	Defense Distribution System/DLA Warehouse and Shipping Procedures System
DDSC	Defense Data Support Center
DDS	Defense Depot System
DDTC	Defense Depot Tracy, California (now DDRW)
DEMIS	Depot Maintenance Management Information System
DEPMEDS	Deployable Medical System
DEPRA	Defense European and Pacific Redistribution Activity
DESC	Defense Electronics Supply Center
DEUR	DLA Europe
DFAMS	Defense Fuel Automated Management System
DFAS	Defense Finance and Accounting Service
DFAS-C	Defense Finance and Accounting Service, Columbus (also DFAS-Columbus)
DFC	DLA Finance Center (now, DFAS-Columbus)
DFSC	Defense Fuel Supply Center
DGSC	Defense General Supply Center
DID	Data Item Description
DIDB	DLA Inventory Bank
DIDS	Defense Integrated Data System
DIF	Defense Industrial Fund

DIIP	Defense Inactive Item Program
DIPEC	Defense Industrial Plant Equipment Center
DIPECAIS	Defense Industrial Plant Equipment Center Automated Information System
DIPEF	Defense Industrial Plant Equipment Facility
DIPEO	Defense Industrial Plant Equipment Office
DISA	Defense Information Systems Agency
DISC	Defense Industrial Supply Center
DISMS	Defense Integrated Subsistence Management System
DLAMIS	DLA Management Information System
DLANET	DLA Telecommunications Network
DLA-A	Directorate of Contract Management
DLA-B	Office of Public Affairs
DLA-C	Office of Comptroller
DLA-D	Director, DLA
DLA-E	Directorate of Program and Technical Support
DLA-G	Office of General Counsel
DLA-I	Office of Command Security
DLA-J	Office of Contracting Integrity
DLA-K	Office of Civilian Personnel
DLA-L	Office of Policy and Plans
DLA-M	Office of Military Personnel
DLA-N	Directorate of Stockpile Management
DLA-O	Directorate of Supply Operations
DLA-P	Directorate of Contracting Services
DLA-Q	Directorate of Quality Assurance
DLA-S	Directorate of Technical and Logistics Services
DLA-U	Office of Small and Disadvantaged Business
DLA-W	Office of Installation Services and Environmental Protection
DLA-X	Office of Administration
DLA-Y	Office of Congressional Affairs
DLA-Z	Office of Information Systems and Technology
DLAR	Defense Logistics Agency Regulation
DLIS	Defense Logistics Information System
DLMS	Defense Logistics Management System
DLSC	Defense Logistics Services Center
DLSC MOD	DLSC Modernization
DLSO	Defense Logistics Support Office
DLSOM	DLA Logistics Systems Modernization Program Management Office
DLSMP	DLA Logistics Systems Modernization Program
DLSS	Defense Logistics Standard Systems
DLSSO	Defense Logistics Standard Systems Office
DMARS	DAASO Micro Automated Routing System
DMINS	Distributed Minicomputer System
DMR	Defense Management Report
DMRD	Defense Management Review Decision
DNCC	DCTN Network Control Center
DNCS	DAAS Network Control System

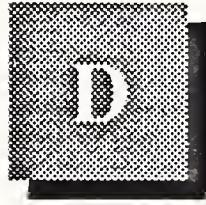
DNCS	Defense National Stockpile Center
DORAN	DLA's Operations Research Analysis Network
DPACS	DLA Pre-Award Contracting System
DPASO	DLA Public Affairs Support Office
DPI	Data Processing Installation
DPMR	DoD Program Management Review
DPSC	Defense Personnel Support Center
DPSO	Defense Procurement Support Office
DPSSO	DLA Performance Standards Support Office
DRD	Document Release Date
DRIS	Defense Regional and Interservice Support
DRIT	DTIC Retrieval and Indexing Terminology
DRMO	Defense Reutilization and Marketing Office
DRMR	Defense Reutilization and Marketing Region
DRMS	Defense Reutilization and Marketing Service
DRO	Defense Release Order
DROLS	Defense Research On-Line System
DSA	Defense Supply Agency (now DLA)
DSAC	DLA Systems Automation Center
DSATS	DLA Standard Automated Transportation System
DSC	Defense Supply Center
DSC-Trans	Defense Supply Center-Transportation
DSCAMP	DASC-Z System for Control and Automated Management of Paperwork
DSCS	Defense Satellite Communications System
DSCs	Defense Supply Centers
DSD	Deputy Secretary of Defense
DSEO	DLA Systems Engineering Office
DSF	Defense Stock Fund
DSR-EVR	Defense Subsistence Region-Europe
DSR-PAC	Defense Subsistence Region-Pacific
DTIC	Defense Technical Information Center
DTICSS	Defense Technical Information Center Support System
DTIP	DLA Telecommunication and Information Systems Plan
DTMO	DLA Telecommunications Management Office
DVD	Direct Vendor Delivery
DWASP	DLA Standard Warehousing and Shipping Procedures System
EA	Economic Analysis
ECP	Engineering Change Proposal
EDASRE	Engineering Drawing Automated Storage and Retrieval Equipment
EDCARS	Engineering Data Computer Assisted Retrieval System
EDDS	Enhanced Distribution System
EDMICS	Engineering Data Management Information Control System
EMACS	Equipment Management and Control System
EMR	Executive Management Reviews
ES	Expert System
EUC	End-User Computing

FCD	Functional Configuration Demonstration
FCS	Federal Catalog System
FD	Functional Description
FDDI	Fiber Digital Device Interface
FEDLOG	Federal Logistics (also, Federal Logistics Data)
FEP	Front-End Processor
FES/FAS	Front End Screening/Final Asset Screening
FF&V	Fresh Fruits and Vegetables
FFAVORS	Fresh Fruits and Vegetables Order Receipt System
FIIG	Federal Item Identification Guide
FMS	Foreign Military Sales
FRD	Functional Requirements Document
FR&I	Functional Requirements and Integration
FSC	Federal Stock Classification
FSCM	Federal Supply Code for Manufacturers
FSS	Federal Supply Schedule
FWM	Fraud, Waste and Mismanagement
GBL	Government Bill of Lading
GFE	Government-Furnished Equipment
GFM	Government-Furnished Material
GFP	Government-Furnished Property
HM	Hazardous Materials
HM/HW	Hazardous Materials/Hazardous Waste
HPMOS	Hazardous Property Management Operations System
HQ	Headquarters
I/S	Information System
I&S	Interchange and Substitutability
IA	Information Architecture
ICAS	Integrated Contract Administration Support
ICP	Inventory Control Point
ID	Identification
IDMS	Integrated Disposal Management System
IDTC	Indefinite Delivery Type Contract
IG	Inspector General
ILC	International Logistics Center (AFLC)
ILCO	International Logistics Control Office
ILCS	International Logistics Communications System
ILOSS	International Logistics Overseas Support System
ILP	International Logistics Program
ILSP	Integrated Logistics Support Plan
IMC	Integrated Materiels Complex
IMM	Integrated Materiel Managementd
IPC	Information Processing Center

IPC-C	Information Processing Center-Columbus
IPG	Issue Priority Group
IPL	Integrated Priority List
IPPP	Industrial Preparedness Planning Program
IPR	In-Process Review
IRIS	Interrogation Requirements Information System
ISA	Information System Architecture
ISMP	Information Systems Management Plan
ISP	Information Systems Planning
ITAP	Integrated Technical Applications Program
LCC	Life Cycle Cost
LCM	Life Cycle Management
LDM	Logistics Data Management
LIDS	Logistics Information Data Services
LOGDRMS	Logistics Data Resource Management System
LOGMARS	Logistics Marking and Reading System
Long-term	DLA's 1992-2010 Timeframe
LSA	Logistics Support Analysis
LSMP	Logistics Systems Modernization Program
MAISRC	Major Automated Information System Review Council
MAP	Military Assistance Program
MASS	Management Analysis and Support System
MDSS	Management Decision Support System
MEDALS	Military Engineering Drawing Asset Locator System
MENS	Mission Element Needs Statement
MILS	Military Standard Logistics System
MILSCAP	Military Standard Contract Administration Procedures
MILSTAMP	Military Standard Transportation and Movement Procedures
MIL-STD	Military Standard
MIISTRAP	Military Standard Transaction Reporting and Accounting Procedures
MILSTRIP	Military Standard Requisitioning and Issue Procedures
MIPR	Military Interdepartmental Purchase Request
MIS	Management Information System
MNS	Mission Need Statement
MOCAS	Mechanization of Contract Administration Services
MODELS	Modernization of Defense Logistics Systems
MOWASP	Mechanization of Warehousing and Shipment Processing
MPCASS	Modernized Parts Control and Support System
MPN	Manufacturers Part Number
MRD	Master Requirements Directory
MRO	Materiel Release Order
MSS	Management Support Services
MTA/FIA	Major Thrust Area/Functional Integration Area

NAIN	Non-Approved Item Name
NIR	National Inventory Record
NRFI	Not Ready For Issue
NSC	Naval Supply Center
NSN	National Stock Number
O&M	Operations and Maintenance
OASD	Office of the Assistant Secretary of Defense
OASD(C)	Office of Assistant Secretary of Defense (Comptroller)
OASD(C3I)	Office of Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)
OASD(P&L)	Office of Assistant Secretary of Defense (Production and Logistics)
OJT	On-the-Job Training
OSD	Office of the Secretary of Defense
OST	Order Ship Time
OT&E	Operational Test and Evaluation
OTIS	Office of Telecommunications and Information Systems
P/N	Part Number
PADR	Production Administration Delinquency Report
PAS	Pre-Award Survey
PDA	Procurement, Defense Agencies
PDP	Project Development Plan
PID	Procurement Identification Description
PIIN	Procurement Instrument Identification Number
PLFA	Primary Level Field Activity
PM	Position Management (also, product, project or program manager)
PMS	Performance Management System (also, program management system)
PMSS	Program Management Support System
POM	Program Objective Memorandum
PR	Procedure Review (also, Purchase Request)
PS&C	Program Support and Control
PSE	Principal Staff Element
QAR	Quality Assurance Representative
QEP	Quality Evaluation Program
RDF	Revised Delivery Forecasting
RFCC	Regional Freight Consolidation Center
ROSES	Recovery Operations Survey and Equipment Systems
SA&E	Systems Architecture and Engineering
SADB	Subject Area Data Base
SADBU	Small and Disadvantaged Business Utilization
SAIS	Standard Automated Information Systems
SAMMS	Standard Automated Materiel Management System
SAMMS I3	SAMMS Immediate Improvement Initiative

SCR	System Change Request
SDM	System Decision Memorandum
SDP 4	System Decision Paper 4 - Deployment and Operations
SDP 3	System Decision Paper 3 - Development
SDP 2	System Decision Paper 2 - Design
SDP 1	System Decision Paper 1 - Concept Design
SDP 0	System Decision Paper 0 - Mission Need Statement
SDP	System Decision Paper
SDR	System Design Review
SGML	Standard Generalized Markup Language
SHAD	Sharpe Army Depot, Lathrop, CA
SIM	Security Interface Module
SMALC	Sacramento Air Logistics Center
SMART	Systems Monitoring and Reporting by Testdata
SPEDE	SAMMS Procurement by Electronic Data Exchange
STIMS	Shared Technical Information Management System
STINFO	Scientific and Technical Information
TI	Transition Item
TIR	Total (Transition) Item Record
TISCA	Technical Information Storage and Control Application
TISS	Transportation Information Subsystem
TP	Test Plan
TRAMS	Transportation Automated Management System
TSR	Telecommunications Service Request
UPS	Uninterruptable Power Supply
WBS	Work Breakdown Structure
WRM	War Reserve Material
WS	Weapon System



Policies, Regulations, and Standards

A

OMB Circulars

A-11	Preparation and Submission of Budget Estimates.
A-49	Use of Management and Operating Contracts.
A-71	Responsibilities for the Administration and Management of Automatic Data Processing Activities.
A-109	Major Systems Acquisitions.
A-120	Guidelines for the Use of Consulting Services.
A-121	Cost Accounting, Cost Recovery, and Integrated Sharing of Data Processing Facilities.
A-123	Internal Control Systems.
A-127	Financial Management Systems.
A-130	Management of Federal Information Resources.
A-131	Value Engineering.

B

GSA Publications

The FIRMR as published by GSA is the primary regulation for use by federal agencies in the management, acquisition, and use of both ADP and telecommunications information resources.

C

DoD Directives

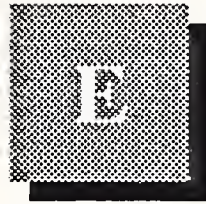
DD-5000.1	Major System Acquisitions.
DD-5000.2	Major System Acquisition Process.
DD-5000.11	DoD Data Elements and Data Codes Standardization Program.
DD-5000.31	Interim List of DoD-Approved, High-Order Languages.
DD-5000.35	Defense Acquisition Regulatory Systems.
DD-5200.1	DoD Information Security Program.
DD-5200.28	Security Requirements for Automatic Data Processing (ADP) Systems.

DD-5200.28-M	Manual of Techniques and Procedures for Implementing, Deactivating, Testing, and Evaluating Secure Resource Sharing ADP Systems.
DD-7920.2	Major Automated Information Systems Approval Process.
DD-7935	Automated Data Systems (ADS) Documentation.

D**Standards**

ADCCP	Advanced Data Communications Control Procedures; ANSI Standard X3.66 of 1979; also NIST FIPS 71.
CCITT G.711	International PCM standard.
CCITT T.0	International standard for classification of facsimile apparatus for document transmission over telephone-type circuits.
DEA-1	Proposed ISO standard for data encryption based on the NIST DES.
EIA RS-170	Monochrome video standard.
EIA RS-170A	Color video standard.
EIA RS-464	EIA PBX standards.
EIA RS-465	Standard for Group III facsimile.
EIA RS-466	Facsimile standard; procedures for document transmission in the General Switched Telephone Network.
EIA RS-232-C	EIA DCE to DTE interface standard using a 25-Pin connector; similar to CCITT V-24.
EIA RS-449	New EIA standard DTE to DCE interface which replaces RS-232-C.
FED-STD 1000	Proposed Federal Standard for adoption of the full OSI reference model.
FED-STD 1026	Federal Data Encryption Standard (DES) adopted in 1983; also FIPS 46.
FED-STD 1041	Equivalent to FIPS 100.
FED-STD 1061	Group II Facsimile Standard (1981).
FED-STD 1062	Federal standard for Group III facsimile; equivalent to EIA RS-465.
FED-STD 1063	Federal facsimile standard; equivalent to EIA RS-466.
FED-STDs 1005, 1005A-1008	Federal Standards for DCE Coding and Modulation.
FIPS 46	NIST Data Encryption Standard (DES).
FIPS 81	DES Modes of Operation.

FIPS 100	NIST Standard for packet-switched networks; subset of 1980 CCITT X.25.
FIPS 107	NIST Standard for local-area networks, similar to IEEE 802.2 and 802.3.
FIPS 146	Government Open Systems Interconnection (OSI) Profile (GOSIP).
FIPS 151	NIST POSIX (Portable Operating System Interface for UNIX) standard.
IEEE 802.2	OSI-Compatible IEEE standard for data-link control in local-area networks.
IEEE 802.3	Local-area network standard similar to Ethernet.
IEEE 802.4	OSI-compatible standard for token bus local-area networks.
IEEE 802.5	Local-area networks standard for token ring networks.
IEEE P1003.1	POSIX standard, similar to FIPS 151.
MIL-STD-188-114C	Physical interface protocol similar to RS-232 and RS-449.
MIL-STD-1777	IP-Internet Protocol.
MIL-STD-1778	TCP - Transmission Control Protocol.
MIL-STD-1780	File Transfer Protocol.
MIL-STD-1781	Simple Mail Transfer Protocol (electronic mail).
MIL-STD-1782	TELNET - virtual terminal protocol.
MIL-STD-1815A	Ada Programming Language Standard.
SVID	UNIX System Interface Definition.
X12	ANSI standard for Electronic Data Interchange
X.21	CCITT standard for interface between DTE and DCE for synchronous operation on public data networks.
X.25	CCITT standard for interface between DTE and DCE for terminals operating in the packet mode on public data networks.
X.75	CCITT standard for links that interface different packet networks.
X.400	ISO application-level standard for the electronic transfer of messages (electronic mail).



Related INPUT Reports

A

Annual Market Analyses

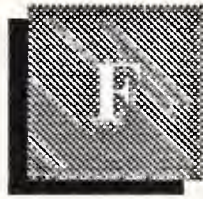
- *U.S. Information Services Vertical Markets, 1990.*
- *U.S. Information Services Cross-Industry Markets, 1990.*
- *Procurement Analysis Reports, GFY 1991-1996.*

B

Market Reports

- *Federal Computer Security Market, 1991-1996*
- *Federal Large-Scale Systems Markets, 1988-1993*
- *Federal Professional Services Market, 1991-1996*
- *Federal Software and Related Services Market, 1989-1994.*
- *Federal Midsize Systems Market, 1988-1993*
- *Federal Systems Integration Market, 1991-1996*
- *Federal Processing Services/Systems Operations Market, 1991-1996*
- *Federal Telecommunications Market, 1990-1995*
- *Federal Office Information Systems Market, 1988-1993*
- *Federal Microcomputer Market, 1989-1994*
- *NASA Information Systems Market*
- *Department of Veterans Affairs Information Systems Market*

- *Federal Geographic Information Systems Market, 1991-1996*
- *Federal Electronic Imaging Market, 1991-1996*
- *Defense Information Systems Agency Market*
- *Uncompensated Overtime*
- *Federal Anti-Drug Program*
- *GSA Schedule Practices*



Questionnaires

INPUT Questionnaires—Definitions

For the purposes of this study, we have defined information systems and services (IS) “for ADP” as follows:

Processing Services - Includes transaction processing, utility processing, other processing services, and systems operations; also referred to as “resource management,” facilities management or “COCO” (contractor-owned, contractor-operated).

Network Services - A wide variety of network-based functions and operations. The common thread is that none of these functions could be performed without network involvement. Network services includes VANS, and network applications (electronic information systems).

Software Products - Includes user purchases of applications and systems software packages for in-house computer systems. Included are lease and purchase expenditures, as well as expenditures for work performed by the vendor to implement or maintain the package at the user's sites.

Professional Services - Software development, education and training, consulting, and systems operations of client-owned equipment (GOCO) are included in this category.

Turnkey Systems - An integration of systems and applications software with CPU hardware and peripherals, packaged as a single application (or set of applications) solution.

Systems Integration - Delivery of large, complex multi-disciplinary, multi-vendor systems, incorporating some or all of these categories: systems design, programming, integration, equipment, packaged software, communication networks, installation, education and training, and SI related professional services. These contracts usually take at least one year to complete and involve a prime contractor.

Hardware - Includes all computer processors/terminals, and telecommunications equipment that can be separately acquired with or without installation by the vendor and not acquired as part of an integrated system.

Confidential

DLA Information Services Market, 1990-1994—Headquarters/Policy Level Questionnaire

1. In your opinion, in what functional areas has DLA used information technology most effectively over the past three years?

2. Which categories of information systems and services does DLA currently utilize the most? (*read the following list, rank the categories in 1, 2, 3, order, etc., where 1=used the most frequently*)

Indicate Rank

Professional Services	_____
Software Products	_____
Processing Services	_____
Systems Integration	_____
Network Services	_____
Turnkey Systems	_____
Hardware	_____

3. Approximately what percent of DLA's total information systems and services budget, in your opinion, was spent in each of these categories during FY88?

Indicate Percent Spent

Professional Services	_____
Software Products	_____
Processing Services	_____
Systems Integration	_____
Network Services	_____
Turnkey Systems	_____
Hardware	_____

- 4a. Over the past three years has information systems and services (IS) funding been increasing, decreasing, or remaining the same? (*check one*)

Increasing	<input type="checkbox"/>
Decreasing	<input type="checkbox"/>
Remaining the same	<input type="checkbox"/>
Don't know	<input type="checkbox"/>

- 4b. Why?

5. What types of DLA applications have tended to run on different classes of hardware systems?

Application Types	Hardware Classes		
	Mainframes	Midsize	Micros
	(check all that apply for each application type)		
Information Analysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Human Resources/Payroll	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Word Processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Mail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Publishing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Graphics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Logistics/Distribution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accounting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Management Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scientific/Engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Project Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Generally, what type of contract has DLA preferred for each type of information systems and services category listed below?

IS Category	Cost	Fixed	Fixed	Award	Mix
	Plus	Price	Labor	Fee	
	(check one contract type for each category)				
Professional Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software Products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Processing Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Systems Integration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Network Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turnkey Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hardware	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7a. Does a relationship exist between headquarters information systems planning (ISP) activities and those at DLA field offices? (check one)

Yes ☐

No ☐ (go to Q8)

7b. How would you characterize the relationship?

8. How does DLA’s overall IS planning process support DLA field office modernization efforts? Please explain:

9a. Have there been any external pressures (i.e. Congressional funding decisions, legislation) that have forced HQ to revise information systems plans? (*check one*)

Yes ☐

No ☐ (*go to Q10a*)

9b. Which pressures and how have they affected plans?

10a. Do DLA field offices prepare their own IS plans? (*check one*)

Yes ☐

No ☐ (*go to Q11*)

10b. To what extent are DLA program managers involved in IS plans?

11. In general, do information systems plans reflect mission goals and objectives, or focus primarily on technology progress within the DLA? (*check one*)

Mission goals ☐

Technology progress ☐

Mix of both ☐

12a. Are mission changes or trends driving any changes in information systems and services within DLA? (*check one*)

Yes ☐

No ☐ (*go to Q13*)

Don't know ☐ (*go to Q13*)

12b. Please explain:

13. How does DLA relate headquarters information systems oversight to field operating units?

Please explain:

14. Is there any relationship between headquarters information systems oversight and headquarters information systems operations?

Please explain:

15. How would you characterize the level of decentralization of DLA information systems (IS) activities?

Please explain:

- 16a. Have systems integration projects aided in the completion of DLA's mission or objectives? (*check one*)

Yes

☐

No

☐ (*go to Q17a*)

- 16b. If Yes, how? Which projects?

- 16c. Do you expect an increase or decrease in the number of systems integration projects within DLA through FY94? (*check one*)

Increase

☐

Decrease

☐

Remain the same

☐

Don't know

☐

- 17a. Has GSA's advocacy of the "modular approach" to large systems designs affected how the DLA will be meeting large integrated systems requirements through FY94? (*check one*)

Yes

☐

No

☐ (*go to Q18a*)

Don't know

☐ (*go to Q18a*)

- 17b. Which programs are affected and how?

- 18a. Overall, do you anticipate the amount of information systems and services that DLA will procure during the next five years will: (*check one*)

Increase ☐
 Decrease ☐
 Remain the same ☐
 Don't know ☐

- 18b. Why?

19. For each of the following categories, please indicate if you expect an increase or decrease in acquisitions in the next two to five years, and can you estimate by what percent?

	Increase (<i>check one column</i>)	Decrease	Indicate Percent Change
Professional Services	<input type="checkbox"/>	<input type="checkbox"/>	_____
Software Products	<input type="checkbox"/>	<input type="checkbox"/>	_____
Processing Services	<input type="checkbox"/>	<input type="checkbox"/>	_____
Systems Integration	<input type="checkbox"/>	<input type="checkbox"/>	_____
Network Services	<input type="checkbox"/>	<input type="checkbox"/>	_____
Turnkey Systems	<input type="checkbox"/>	<input type="checkbox"/>	_____
Hardware	<input type="checkbox"/>	<input type="checkbox"/>	_____

20. Which field offices are projected to contract for the largest share of the IS budget for FY89? For which programs?
 Specify DLA Office Specify Program Name

_____	_____
_____	_____
_____	_____
_____	_____

21. What do you view as the three most significant DLA initiatives for FY90-94?
 Specify Initiatives:

22. Generally, what types of applications has DLA contracted out to services vendors in the past three years, and what types do you expect to be contracted out through FY94?

Services	Past	Future
	Contracted? (check all that apply in each column)	Contracted?
Information Analysis	<input type="checkbox"/>	<input type="checkbox"/>
Human Resources/Payroll	<input type="checkbox"/>	<input type="checkbox"/>
Word Processing	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Mail	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Publishing	<input type="checkbox"/>	<input type="checkbox"/>
Graphics	<input type="checkbox"/>	<input type="checkbox"/>
Logistics/Distribution	<input type="checkbox"/>	<input type="checkbox"/>
Accounting	<input type="checkbox"/>	<input type="checkbox"/>
Management Systems	<input type="checkbox"/>	<input type="checkbox"/>
Scientific/Engineering	<input type="checkbox"/>	<input type="checkbox"/>
Project Management	<input type="checkbox"/>	<input type="checkbox"/>

23. What future legislation do you foresee impacting DLA’s acquisition of information systems and services through FY94, and how?

24. What industry trends and other external factors might impact DLA’s acquisitions of computer systems and services (i.e., Ada, AI, teaming, mergers, etc.)

25. Will standards activities have any impact on DLA’s acquisition of information services and computer systems through FY94?? If so, which ones, and how have they affected plans?

26. What technological improvements do you foresee altering the way DLA accomplishes information processing during the next 5 years?

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DLA Information Services Market, 1990-1994—Users/Program Managers Questionnaire

1. For which functional areas has your DLA group most effectively used information technology?
Please explain: _____

2. What information systems or services has your group used during FY88? Which do you anticipate using through FY94? (*check all current and future services that apply*)

	Used in FY88 ?	Future Use?
	(<i>check all that apply in each column</i>)	
Professional Services	<input type="checkbox"/>	<input type="checkbox"/>
Software Products	<input type="checkbox"/>	<input type="checkbox"/>
Processing Services	<input type="checkbox"/>	<input type="checkbox"/>
Systems Integration	<input type="checkbox"/>	<input type="checkbox"/>
Network Services	<input type="checkbox"/>	<input type="checkbox"/>
Turnkey Systems	<input type="checkbox"/>	<input type="checkbox"/>
Hardware	<input type="checkbox"/>	<input type="checkbox"/>

3. Please estimate the percent of your total information systems and services (IS) budget that was spent in each of these categories during FY88:

	Indicate Percent Spent
Professional Services	_____
Software Products	_____
Processing Services	_____
Systems Integration	_____
Network Services	_____
Turnkey Systems	_____
Hardware	_____

4. Does DLA's overall planning process support your IS modernization efforts? (*check one*)
 Yes ☐
 No ☐
 Please explain: _____

5. Please estimate your group's average annual expenditure for information systems and services over the past 3 years:
 (*enter amount*) _____

- 6a. What level of funding for information systems and services does your group expect to receive for:
 FY89? (*enter amount*) _____
 FY90? (*enter amount*) _____

6b. Over the past three years has funding for information systems and services been increasing, decreasing, or remaining the same? (*check one*)

- Increasing ☐
 Decreasing ☐
 Remaining the same ☐
 Don't know ☐

7a. Overall, do you believe the amount of information systems and services your group will use during the next five years is: (*check one*)

- Increasing ☐
 Decreasing ☐
 Remaining the same ☐
 Don't know ☐

7b. Why?

8a. Are mission changes or trends driving any changes in information systems and services for your group? (*check one*)

- Yes ☐
 No ☐ (*go to Q9*)
 Don't Know ☐ (*go to Q9*)

8b. Please explain:

9. For each of the following categories, please indicate if you expect an increase or decrease in acquisitions over the next two to five years, and can you estimate by what percent?

	Increase (<i>check one column</i>)	Decrease	Indicate Percent Change
Professional Services	<input type="checkbox"/>	<input type="checkbox"/>	_____
Software Products	<input type="checkbox"/>	<input type="checkbox"/>	_____
Processing Services	<input type="checkbox"/>	<input type="checkbox"/>	_____
Systems Integration	<input type="checkbox"/>	<input type="checkbox"/>	_____
Network Services	<input type="checkbox"/>	<input type="checkbox"/>	_____
Turnkey Systems	<input type="checkbox"/>	<input type="checkbox"/>	_____
Hardware	<input type="checkbox"/>	<input type="checkbox"/>	_____

10a. Does your organization have plans to add, replace, or upgrade any information systems through FY94? (*check one*)

- Yes ☐
 No ☐ (*go to Q12*)
 Don't Know ☐ (*go to Q12*)

10b. What is the anticipated number of information systems your organization is planning to implement through FY94? (*enter number*) _____

- 10c. What types of hardware will these information systems use? (*check all that apply*)
- Midsize ☐
 Mainframes ☐
 Micros ☐
 Other ☐
11. How does your organization plan to accomplish the change and/or addition of your information systems? (*check all that apply*)
- Buy hardware only ☐
 Buy integrated system(s) ☐
 Buy turnkey system(s) ☐
 Buy hardware separately and use a SI contractor ☐
 Buy hardware separately and do integration in-house ☐
 Buy operational support with hardware ☐
 Move the applications to outside sources such as:
 Other Agency centers ☐
 Remote Computer Services (i.e., TSP) ☐
 Contractor-Owned Contractor-Operated Facilities ☐
 Other (*specify*): _____ ☐
12. What types of applications has your group contracted out to services vendors in the past three years, and what types do you expect to contract out through FY94?
- | Services | Past
Contracted?
(<i>check all that apply in each column</i>) | Future
Contracted? |
|-------------------------|---|--------------------------|
| Information Analysis | <input type="checkbox"/> | <input type="checkbox"/> |
| Human Resources/Payroll | <input type="checkbox"/> | <input type="checkbox"/> |
| Word Processing | <input type="checkbox"/> | <input type="checkbox"/> |
| Electronic Mail | <input type="checkbox"/> | <input type="checkbox"/> |
| Electronic Publishing | <input type="checkbox"/> | <input type="checkbox"/> |
| Graphics | <input type="checkbox"/> | <input type="checkbox"/> |
| Logistics/Distribution | <input type="checkbox"/> | <input type="checkbox"/> |
| Accounting | <input type="checkbox"/> | <input type="checkbox"/> |
| Management Systems | <input type="checkbox"/> | <input type="checkbox"/> |
| Scientific/Engineering | <input type="checkbox"/> | <input type="checkbox"/> |
| Project Management | <input type="checkbox"/> | <input type="checkbox"/> |
- 13a. Has your organization completed any "mission-oriented" contracting for services? (*check one*)
- Yes ☐
 No ☐ (*go to Q14a*)
 Don't know ☐ (*go to Q14a*)
- 13b. If Yes, for which types of applications? _____

14a. Does your office currently support any agency-wide information systems? (*check one*)

- Yes ☐
 No ☐ (*go to Q15*)
 Don't know ☐ (*go to Q15*)

14b. If Yes, which ones? _____

15a. Are there any other major DLA initiatives planned for FY90-94, for which your office will be a participant? (*check one*)

- Yes ☐
 No ☐ (*go to Q16*)
 Don't know ☐ (*go to Q16*)

15b. If Yes, which initiatives? _____

16. What is the typical controlling criteria in selection of contractors by your organization for information systems and services? (*Read the following list, rank the criteria in 1,2,3, order, etc., where 1 means most important, and 5 means least important*)

Criteria	Indicate Rank Order
Contract Type	_____
Risk Containment Procedures	_____
Initial Cost	_____
Technical Solution	_____
Life Cycle Cost	_____
Other (<i>specify</i>): _____	_____

17. Indicate which types of vendors your organization prefers to work with for each category of information systems and services? (*check all that apply*)

Categories	Computer Systems & Services					
	Proc. Svcs.	Net- work Svcs.	Soft- ware Prods.	Prof. Svcs.	Turn- key Sys.	Sys. Intgr- ation
<i>(check all vendor categories that apply)</i>						
Hardware Vendor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Systems Integrator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Professional Services Firms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software Manufacturers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aerospace Divisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not-For-Profit Organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communications Vendors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. What type contract does your organization prefer for each type of information systems and services category used?

IS Category	Contract Types				
	Cost	Fixed	Fixed	Award	Mix
	Plus	Price	Labor	Fee	

(check one contract type for each category)

19. When a commercial services contract is completed, does your group usually transfer continued support in-house or leave support functions with contractors? (check one)

In-house ☐

Contractors ☐

Varies ☐

20. Please specify which support services your organization is planning to convert to in-house or to outside contractor support through FY94 and why?

Specify Service	In-house	Outside	Why?
	Support?	Support?	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	

(check one)

22. What impact, if any, has Gramm-Rudman and other budget constraints had on your acquisitions of information systems and services?

23. What industry trends and other external factors might impact your acquisitions of information systems and services (i.e., Ada, AI, teaming, mergers, etc.)

24. Have standards activities had any impact on your acquisition of information services and systems? If so, which ones, and how have they affected your plans?

25. What technological improvements do you foresee altering the way your agency accomplishes information processing during the next 5 years?

26. How does DLA relate headquarters IS oversight to field operating units?

27. In your opinion, is there any relationship between headquarters IS oversight and headquarters IS operations?

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DLA Information Services Market, 1990-1994—Vendor Questionnaire

- 1a. Does your company now provide or plan to provide information systems and services to the DLA? (*check one*)
 Yes ☐
 No ☐ (*end*)
- 1b. What information systems and services has your company provided to DLA in FY88? Or plan to provide through FY94? (*check all current and future services that apply*)
- | | Used in
FY88? | Future
Use? |
|---------------------------------|--|--------------------------|
| | <i>(check all that apply in each column)</i> | |
| Professional Services | <input type="checkbox"/> | <input type="checkbox"/> |
| Software Products | <input type="checkbox"/> | <input type="checkbox"/> |
| Processing Services | <input type="checkbox"/> | <input type="checkbox"/> |
| Systems Integration | <input type="checkbox"/> | <input type="checkbox"/> |
| Network Services | <input type="checkbox"/> | <input type="checkbox"/> |
| Turnkey Systems | <input type="checkbox"/> | <input type="checkbox"/> |
| Hardware | <input type="checkbox"/> | <input type="checkbox"/> |
| Other (<i>specify</i>): _____ | <input type="checkbox"/> | <input type="checkbox"/> |
2. In your opinion, which categories of information systems and services provides the most attractive opportunities for your company at DLA? (*check all that apply*)
- | | |
|-----------------------|--------------------------|
| Professional Services | <input type="checkbox"/> |
| Software Products | <input type="checkbox"/> |
| Processing Services | <input type="checkbox"/> |
| Systems Integration | <input type="checkbox"/> |
| Network Services | <input type="checkbox"/> |
| Turnkey Systems | <input type="checkbox"/> |
| Hardware | <input type="checkbox"/> |
- 3a. Overall, do you anticipate any changes in the amount of information systems and services your company will provide to DLA through FY94? (*check one*)
 Yes ☐
 No ☐ (*go to Q4*)
 Don't know ☐ (*go to Q4*)
- 3b. If Yes, in which of the following categories do you expect either an increase or decrease in the next few years, and can you estimate by what percent?
- | | Increase | Decrease | Indicate Percent |
|-----------------------|---------------------------|--------------------------|------------------|
| | <i>(check one column)</i> | | Change |
| Professional Services | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Software Products | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Processing Services | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Systems Integration | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Network Services | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Turnkey Systems | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Hardware | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

4. In your opinion, what types of applications has DLA contracted out to services vendors in the past three years, and what types do you expect DLA to contract out through FY94?

Services	Past	Future
	Contracted? (check all that apply in each column)	Contracted?
Information Analysis	<input type="checkbox"/>	<input type="checkbox"/>
Human Resources/Payroll	<input type="checkbox"/>	<input type="checkbox"/>
Word Processing	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Mail	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Publishing	<input type="checkbox"/>	<input type="checkbox"/>
Graphics	<input type="checkbox"/>	<input type="checkbox"/>
Logistics/Distribution	<input type="checkbox"/>	<input type="checkbox"/>
Accounting	<input type="checkbox"/>	<input type="checkbox"/>
Management Systems	<input type="checkbox"/>	<input type="checkbox"/>
Scientific/Engineering	<input type="checkbox"/>	<input type="checkbox"/>
Project Management	<input type="checkbox"/>	<input type="checkbox"/>

5a. Has your company ever acquired a contract(s) for support functions which were previously done in-house by DLA? (check one)

- Yes ☐
- No ☐ (go to Q6)

5b. Please indicate type of support services:

6. Indicate any differences and similarities your company sees between marketing for products and services to DLA and other sectors of the federal market:

Differences	Similarities

7. Indicate which categories of systems and services your company provides to DLA as a subcontractor, or as a "team" participant? (check all that apply)

- Professional Services ☐
- Software Products ☐
- Processing Services ☐
- Systems Integration ☐
- Network Services ☐
- Turnkey Systems ☐
- Hardware ☐

8a. Has your company completed any "mission-oriented" contracting for systems and services for DLA? (check one)

- Yes ☐
- No ☐ (go to Q9)

8b. If Yes, for which types of applications?

9. Please indicate any recent systems integration and turnkey systems projects your company has installed at DLA within the past two years, and any new ones that are planned through FY94:

Indicate Project Name	Specify SI, or Turnkey	Recently Installed? (check one column)	Adding New?
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>

10. What major programs do you expect DLA to initiate through FY94?
(specify initiatives):

11. What type of contract does your company expect to dominate at DLA for each category of information systems and services through FY94?

IS Category	Cost Plus	Fixed Price	Fixed Labor	Award Fee	Mix
	(check one contract type for each IS category)				
Professional Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software Products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Processing Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Systems Integration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Network Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turnkey Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hardware	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12a. In your opinion, what has been DLA's controlling criteria in selection of contractors for IS? (Read the following list, rank the criteria in 1, 2, 3, order, etc., where 1 means most important, and 5 means least important)

Criteria	Indicate Rank Order
Contract Type	_____
Risk Containment Procedures	_____
Initial Cost	_____
Technical Solution	_____
Life Cycle Cost	_____
Other (specify): _____	_____

- 12b.

Do you see this changing?
Please explain:
13.

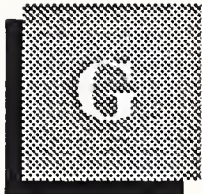
What do you believe vendors need to do over the next five years to make their products and services more valuable to the DLA?
Please explain:
14.

What impact, if any, does your company believe Gramm-Rudman and other budget constraints have had on DLA's acquisitions of information systems and services?
Please explain:
15.

What industry trends and other external factors might impact DLA's acquisitions of information systems and services? (i.e., Ada, AI, teaming, mergers, etc.)
Please explain:
16.

Have standards activities had any impact on DLA's acquisition of information services and systems? If so, which ones, and how have they affected DLA's plans?
Please explain:
17.

What technological improvements do you foresee altering the way DLA accomplishes information processing during the next 5 years?
Please explain:



Planned DAISRC Approval Process Overview

EXHIBIT G-1

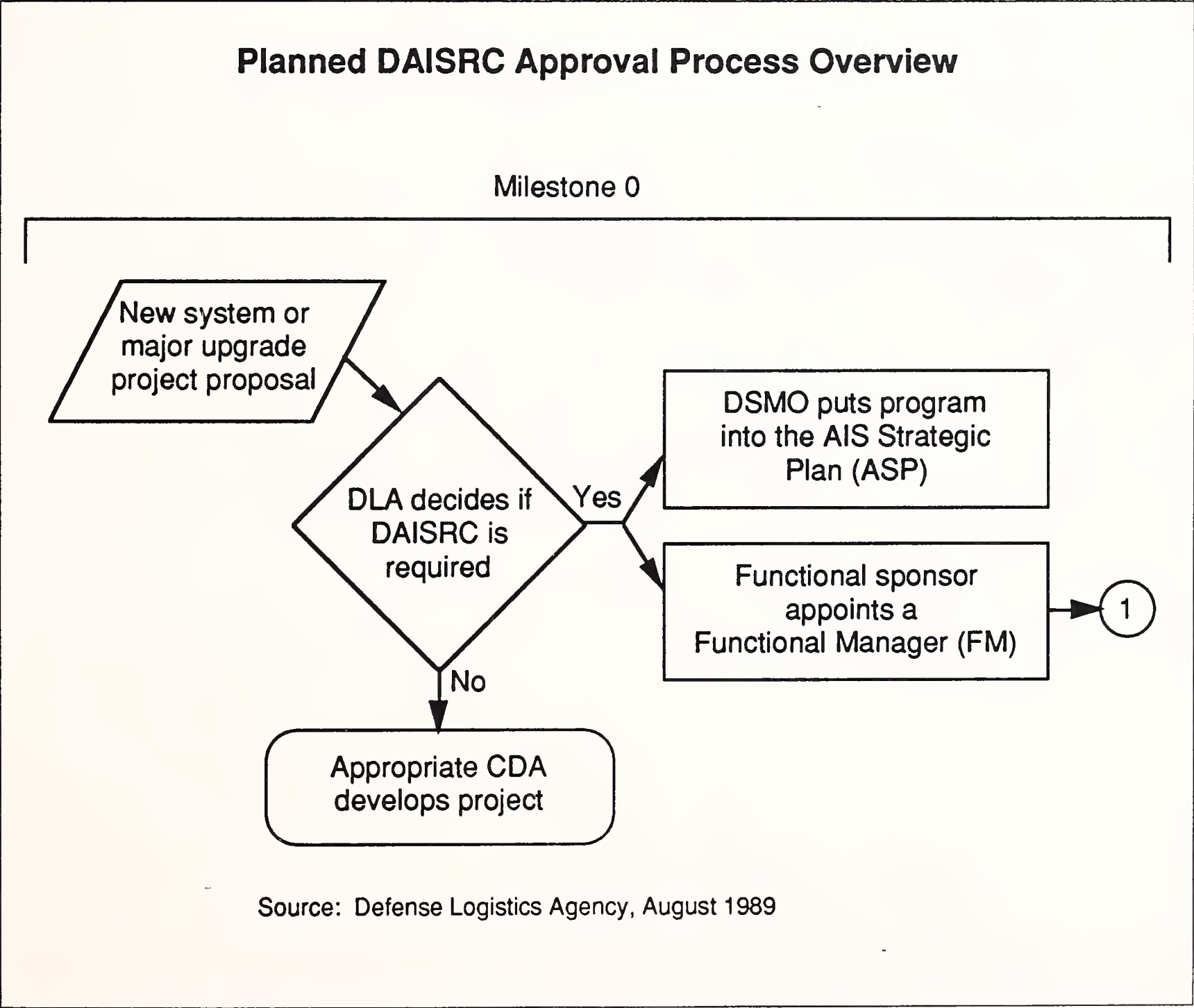


EXHIBIT G-1 (cont.)

Planned DAISRC Approval Process Overview

Milestone 0

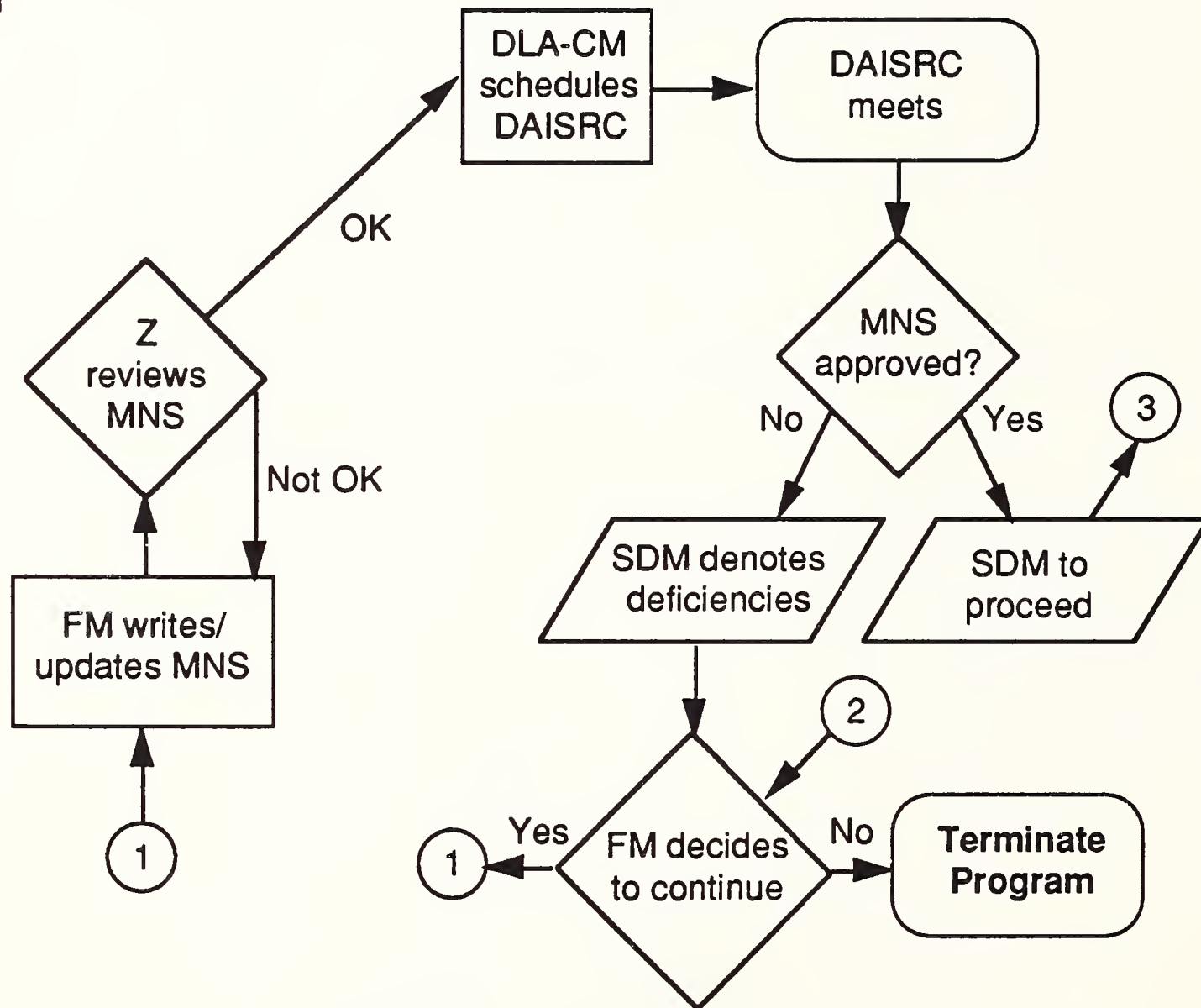


EXHIBIT G-1 (cont.)

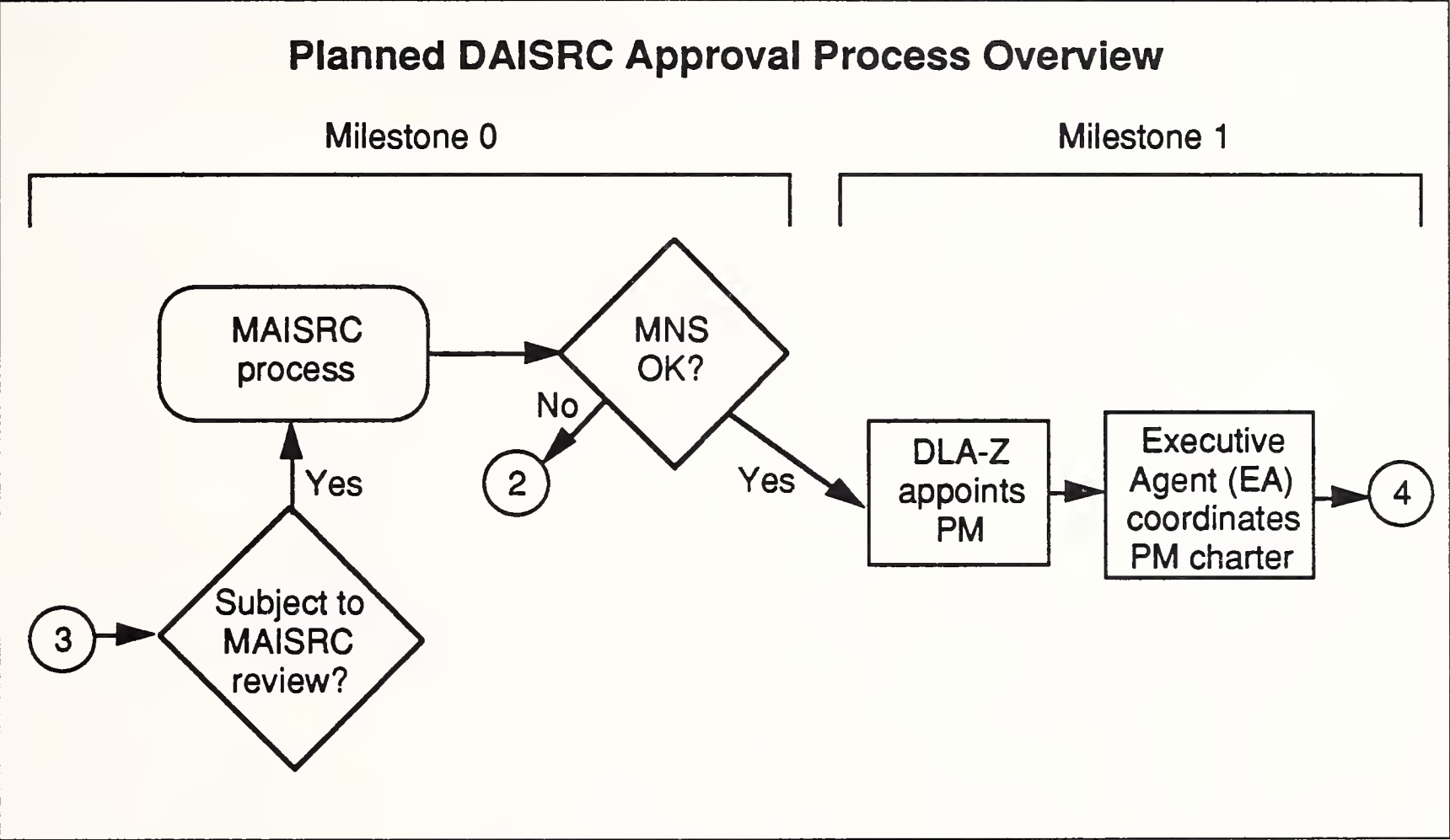


EXHIBIT G-1 (cont.)

Planned DAISRC Approval Process Overview

Milestones 1, 2 ,3 ,4

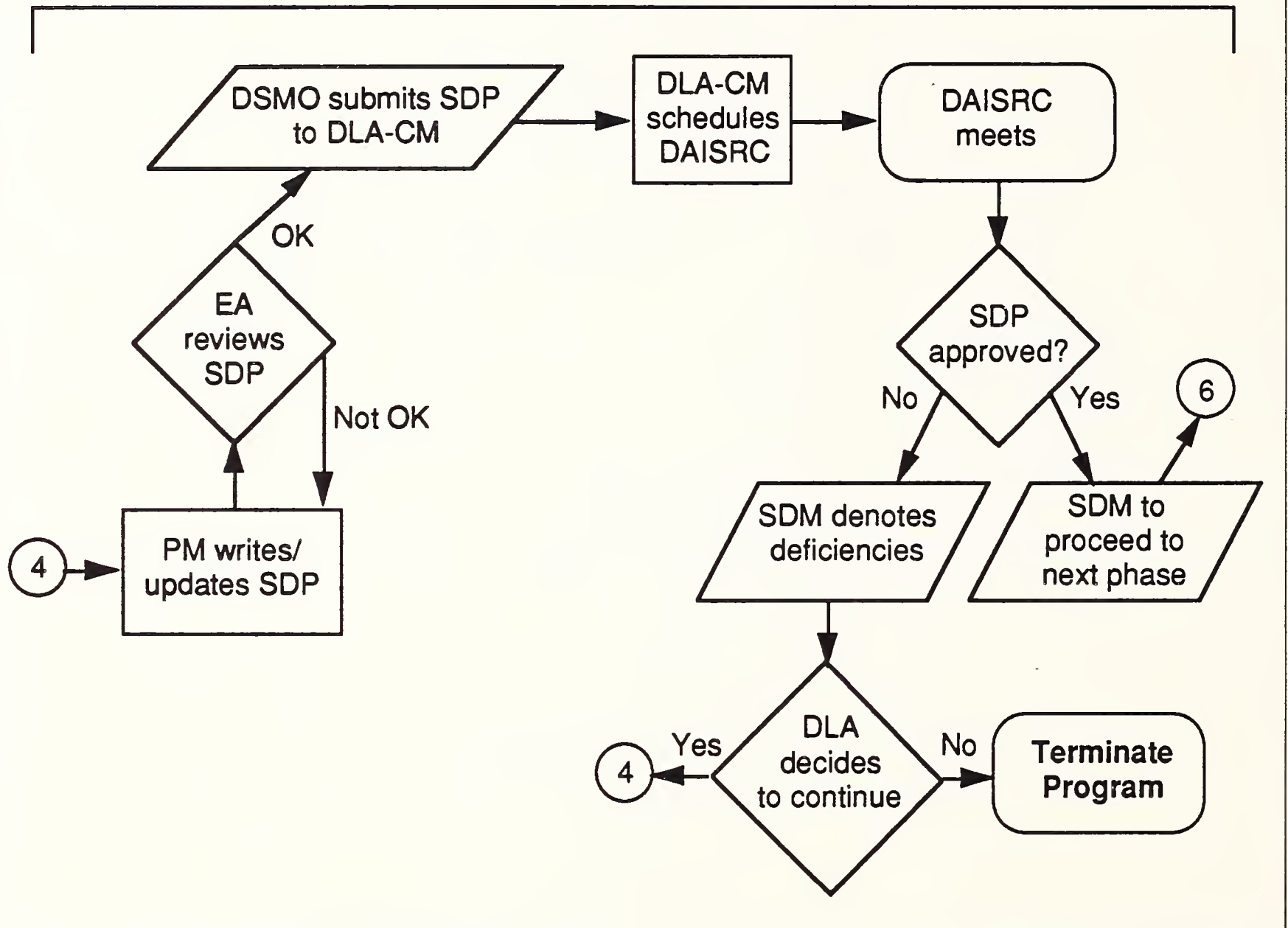


EXHIBIT G-1 (cont.)

